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HANDBOOK
OF THE
GERMAN ARMY

(HOME AND COLONIAL).

Fourth Edition.

Revised by the General Staff, War Office.

1912.

(Amended to August, 1914.)



LONDON

PRINTED UNDER THE AUTHORITY OF HIS MAJESTY'S
STATIONERY OFFICE

By HARRISON & SONS, 45-47, ST. MARTIN'S LANE, W.C.,

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PREFACE

This handbook is intended for the use of officers who desire to obtain a comprehensive view of the German Army during peace-time, or who may wish to follow its operations during manoeuvres or other training.

The war establishments of the German Army are not published officially, the figures in this handbook are, therefore, to a great extent taken from those given in such unofficial sources as V. Rabenau's "*Deutsche Land- und Seemacht*," which may be assumed to be approximately correct.

Further detailed material concerning the historical development of the Army, territorial and *Landwehr* organization, and military educational establishments is to be found in "Military Resources of the German Empire, 1911."

The broad principles of the tactics of the three arms are dealt with in Chapter XIII; for fuller details on this subject, as well as for drill formations and the system of training, reference should be made to the manuals entitled "Education and Training of the German Infantry (Cavalry, &c.)," published by the General Staff.

The Fourth Edition of this handbook has been completed after the passing of the Law of the 4th June, 1912, supplementing the Law of the 27th March, 1911, respecting the peace strength of the German Army up to 1915. The main effect of these two laws was to perfect rather than to increase the number of the larger units available on mobilization for the first line.

Two new Army-Corps were created, making 25 in all in peace, but no fresh brigades of infantry were formed, existing divisions and infantry brigades being utilized for the formation of the two Corps. Artillery, pioneer and train units, however, were to a large extent wanting, and the new laws made provision for them. The bulk of the

new units were formed on the 1st October, 1912, and have therefore been included in the strengths dealt with in this edition. The only important increase, included in these laws, which did not take effect on the 1st October, 1912, is the provision of a second machine-gun company for each brigade of infantry. This increase may be expected to be made shortly, when every regiment of infantry will be provided with this addition to its fighting strength. Similarly, the conversion of horse artillery *Abteilungen* of two batteries, each of 6 guns, into *Abteilungen* of three batteries, each of 4 guns, though not yet carried out, will probably soon be dealt with.

As a result of the formation of the two new Army-Corps and the corresponding Army-Corps districts, the map in the "Military Resources of the German Empire, 1911," requires correction.

GENERAL STAFF,
WAR OFFICE,
October, 1912.

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THE GERMAN ARMY.

CHAPTER I.

CONDITIONS OF SERVICE AND RECRUITING.

CONDITIONS OF SERVICE.

Liability to service.—Every German, unless he is a member of one of the ruling or certain princely families, is liable to military service, and he is not allowed to perform this service by substitute. The liability (*Wehrpflicht*) lasts from the close of the 17th to the end of the 45th year of age, and this period is divided into (1) active military service (*Dienstpflicht*) and (2) *Landsturm* service*.

(1) **Active military service.**—Active military service is sub-divided into (a) service in the Standing Army and its Reserve, and (b) service in the first and second Bans of the *Landwehr*.

(a) **Service in the Standing Army and its Reserve.**—Service in the standing (or Active) Army and its Reserve begins at the end of the 20th year of age, and lasts for 7 years, counting from the actual date on which a man joins his unit: this is usually in the October following his 20th birthday, but all recruits joining between the 2nd October and 31st March are counted as having joined on the 1st October. For the first 3 years in the case of cavalry and horse artillery, and for the first 2½ years in other arms, the men are kept with the colours of the Standing Army; for the remaining 4 and 5 years respectively they belong to its

* Overseas conscription is dealt with in Chapter XVI., page 268.

† For exceptions, see page 12.

Reserve*. During the latter period they are liable to two trainings, neither of which may exceed a period of 8 weeks. The Reserve of the Standing Army is used to bring it up to war strength on mobilization, and to form additional units. The men of the Reserve are divided into classes according to the year in which they were passed into it, and are passed into the *Landwehr* at the Spring Control Muster next following the date on which they complete their 7 years' service.

(b.) Service in the 1st and 2nd Bans of the "*Landwehr*."—Service in the 1st Ban of the *Landwehr* lasts for 5 years, counting from the date of transfer to it from the Reserve, except for men of the cavalry and horse artillery who have compulsorily, and the men of the infantry who have voluntarily served 3 years with the colours; these only serve 3 years in this Ban. Men of the 1st Ban are transferred to the 2nd Ban at the Spring Control Muster following the date on which their service in the 1st Ban expires, except those men whose service in the 1st Ban expires between the 1st April and the 30th September, and who are so transferred at the next following autumn muster.

Service in the 2nd Ban of the *Landwehr* continues from the date of transfer from the 1st Ban till the 31st March of that year in which the man completes his 39th year of age or, in the case of men who have entered the Army before the completion of their 20th year, till the 31st March of that year in which they complete 19 years in the Army. From the 2nd Ban of the *Landwehr* men pass into the 2nd Ban of the *Landsturm*.

The *Landwehr* is used in war to support the Standing Army, and its infantry (also, as required, its cavalry) is formed into independent bodies; but the youngest classes of the *Landwehr* infantry, and all *Landwehr* men of the other arms, may, if necessary, be used to fill up the ranks of the units of the Standing Army. Men of the 1st Ban, except those of the cavalry, may be called up twice during their 5 years, for trainings of from 8 to 14 days. Those of the 2nd Ban may neither be called up for training nor summoned to control musters.

* At the end of their service in the Standing Army men of good character are allowed to re-engage (*Kapitulieren*) from year to year. They are then styled *Kapitulanten*.

(2.) "*Landsturm*"* service.—The duty of the *Landsturm* is to take part in the defence of the country, and it can be used in cases of extraordinary necessity to strengthen the Army and Navy. It consists of men up to 46 years of age who have passed through the Army, Reserve, and *Landwehr*, or the Navy, and also of all other males liable to service who have not belonged either to the Army (including *Ersatz* Reserve) or the Navy, from the completion of their 17th to that of their 45th year. It is divided into two Bans: to the 1st Ban belong all *Landsturm* men (untrained) up to the 31st March in the calendar year in which they complete their 39th year of age, and to the 2nd Ban all others (trained and untrained). Its men are liable to neither trainings nor control musters in peace.

The above regulations hold good in peace only; in war all transfers to the Reserve, *Landwehr*, and *Landsturm* are suspended. Foreigners who become naturalized German subjects are also liable to military service along with men of their own age.

With a fixed effective for the Army it is impossible to pass all the men who become liable to service through a 2 or 3 years' training with the colours, and this (and the necessity of providing good non-commissioned officers and a reliable body of Reserve officers, of giving advantages in the way of shortened presence with the colours to men of education, and of keeping the effective paid strength strictly within that allowed by the Budget), has partly caused the following modifications of the above general rules to be adopted.

The "*Ersatz*" Reserve.—This is a special body of men who do not pass through the ranks of the Standing Army, but who, according to the Regulations, are intended on mobilization to fill up the ranks of its units and to form its depôts. The definition of the purpose of the *Ersatz* Reserve which still stands in the Regulations is that sufficient men should be posted to it annually so that seven contingents of the Reserve may cover the requirements of the standing Army and its depôts on mobilization; but in view of the altered conditions regarding training (see page 16) this seems hardly applicable now. To this Reserve are first posted a

* General levy or *levée en masse*.

proportion of the supernumeraries of the yearly contingent found fit for service, but not taken on account of the high numbers drawn by them, and the number is made up by—

- (1.) Men fit for active service but excused for family reasons.
- (2.) Men with minor bodily defects (conditionally fit), and therefore excused active military service.
- (3.) Men temporarily unfit for active military service, but whose bodily defects are of such a nature that they may be expected to disappear in the course of the next few years.

TABLE SHOWING LIABILITIES FOR SERVICE OF THE VARIOUS CATEGORIES.

1. <i>Cavalry and horse artillery</i>	Regular Service.									
	In the Standing Army.		In the Landwehr.		In the Reserve.		Landwehr 1st Bn.		Landwehr 2nd Bn.	
	17	20	3	25	4	37	2	30	6	45
Year of age.										
Years of service.										
2. <i>all other arms.</i>	Regular Service.									
	In the Standing Army.		In the Landwehr.		In the Reserve.		Landwehr 1st Bn.		Landwehr 2nd Bn.	
	17	20	34	23	5	37	5	32	6	45
Year of age.										
Years of service.										
3. <i>Reserve Reserve.</i>	Regular Service.									
	In the Standing Army.		In the Landwehr.		In the Reserve.		Landwehr 1st Bn.		Landwehr 2nd Bn.	
	17	20	34	23	5	37	5	32	6	45
Year of age.										
Years of service.										
4. <i>Liability to service of men who have not served in the Army.</i>	Regular Service.									
	In the Standing Army.		In the Landwehr.		In the Reserve.		Landwehr 1st Bn.		Landwehr 2nd Bn.	
	17	20	34	23	5	37	5	32	6	45
Year of age.										
Years of service.										

* For exceptions, see page 15.

† 2nd March of the man's 35th year.

NOTE.—Men of the Reserve, Landwehr and Ersatz Reserve constitute the *Einzelne Reserve* (individual reserve).

Most of the *Erste* Reserve be owing to the *Beurlaubtstand*. They can be called up once a year for muster at the Spring Control Muster, and are liable to three trainings, the first of 10, the second of 6, and the third of 4 weeks. The number of men to be trained in each year is fixed by the Budget, and, when the *Erste* Reserve was first instituted, as many as 40,000 to 50,000 men were trained annually, but as the supply of available reservists increased, the number called out each year has been gradually reduced, until at the present time it only amounts to 2,700* for the whole Empire. These are trained, not under arms but in administrative and medical duties.

No men who have passed their 32nd year can be called out for training unless they have been transferred to the *Erste* Reserve later than they should have been by their own fault, or have been put back to a younger class by their own fault, or at their own request have been excused attendance at a training.

Service in the *Erste* Reserve lasts 12 years, and counts from the 1st October of the year in which liability to active military service began. On the conclusion of this period the men who have been trained pass to the 2nd Ban of the *Landwehr*, whilst those not so trained pass to the 1st Ban of the *Landsturm*, both classes joining these Bans at the Spring Control Muster following the termination of their service in the *Erste* Reserve.

Erste Reserve men called up for service on mobilization are discharged on demobilization. If not previously trained in peace they revert to the *Erste* Reserve. If previously trained, they are placed in the Reserve or *Landwehr*, according to the age, just as if they had served with the colours in peace.

Number of the "*Beurlaubtstand*" (Reserve) called out for training annually. The number of men of the Reserve and *Landwehr* called out for training annually has been steadily increasing year by year. A comparative table for the last 3 years is given opposite. It will be noticed that the bulk of the *Beurlaubtstand* are called up during the periods of 14 and 13 days, which occur in September, at the time of the annual autumn manoeuvres. It is during this period that certain Reserve divisions and units are formed.

* The number of men in the Press that year of the *Erste* Reserve and future to be called out for training is only 2,700 by law.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000
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and those who pass the necessary examinations join the Reserve as aspirant Reserve officers* or non-commissioned officers.

to vouch for the necessary expenditure. The person then either

a spring and autumn, but must pass a year in which they complete their 2011

... YEAR in which they join and the year

... a four one-year rate is per 30 day or

Two-year, three-year and four year volunteers. Men who have completed their 17th year, and who desire to do the Army their profession, or who have reasons for desiring to complete their service at an early age, are permitted to volunteer for a period of 2, 3 or 4 years. They report themselves to the civil president of the recruiting station and receive from him permission to enlist. The selection of a regiment is left to them, but their appointment as commanding officer is dependent on there being vacancies in it, and on their passing a medical examination. If there are no vacancies, the volunteers may still be accepted and sent to their homes till such occur. Large numbers of these volunteers serve in the cavalry; indeed, some of the smartest regiments are composed almost exclusively of them.

Special periods of service.—(a.) Schoolmasters and candidates for these posts serve 1 year only in an infantry regiment, and are then sent to the Reserve.

(b.) The greater proportion of the men of the train *abteilungen*, are sent to the Reserve after 1 year's active service.

(c) Students of the *Kaiser Wilhelm Akademie*, for military medical officers, have to serve in the Army 2 years for every year passed in that institut—

Every year, pupils of the non-commissioned officers' schools have to serve for 4 years with the colours, and the non-commissioned officers' preparatory schools and of the Military Orphanage 2 years in addition for each year passed in those schools.

Men.

Recruiting procedure. In all cases, recruiting orders recruiting is carried on are divided into two categories: equal or supreme authorities.

authorities (a General Officer Commanding an Army-Corps, and a chief civil official).

3,000 are employed daily + are, like 7

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Grades of rank and file. - These are as follows:

2. Non commissioned Officers.

Sources of Supply. The non-commissioned officers are recruited from two sources: (1) from the ranks of the non-commissioned officers' training schools; (2) from the ranks of the non-commissioned officers' training schools.

In the former schools only the infantry and artillery are supplied with non-commissioned officers. The training schools are divided into two classes: the non-commissioned officers' preparatory schools and the non-commissioned officers' schools.

In the former the education is of a general character, and great attention is paid to physical development. The limits of age for admission are 14½ to 17, and the course lasts 3 years.

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There are nine preparatory schools in all (including one in Saxony and one in Bavaria), and the total number of pupils is about 2,300. On leaving the preparatory schools the pupils join the non-commissioned officers' schools, of which there are five in all. The course in these schools is purely military, which is between 17 and 20, the course is a purely military one, and lasts 2 years for those who have been to a preparatory school, and 3 years for those who join direct. All pupils must contract to serve 4 years in the Standing Army. About 25 per cent. of the non-commissioned officers come from the non-commissioned officers' schools. On leaving the schools the pupils are posted to regiments, the best as under-officers, the remainder as lance-corporals, bombardiers, or privates, being generally promoted to be under-officers within a year.

The men coming from the schools being of good education are eventually employed as clerks, storekeepers, quartermasters, or assistant paymasters, and, if well conducted, are generally sought after as sergeant-majors.

It is however sometimes considered that the age at which many of them enter the service as under-officers, i.e., 19 years, is too young, and that they are apt to fail as regards power of command and the maintenance of discipline.

(1) The ranks are the main source of supply for non-commissioned officers, the percentage obtained in this way being 75.

Non-commissioned officers are taken from the voluntarily engaged men, and from the men of the annual contingent. Lance-corporals and bombardiers are chosen from among men of good character who have completed their recruit's course of instruction and have served at least 6 months.

Appointments as under-officers are made from lance-corporals and privates who have, except in very rare cases, completed their course.

Candidates for the rank of under-officer are proposed by their company, squadron, or battery commander, and appointed by the regimental commander. No special period of service before promotion to the rank of under-officer is laid down, but it is hardly ever less than 3 years.

Each spring, commanders of companies, squadrons, and batteries select from among their recruits the men who

Military dress uniform is worn by all officers and non-commissioned officers. The uniform is of a dark blue color, with a high collar and a single-breasted jacket. The trousers are also dark blue, with a single-breasted waistcoat. The uniform is worn by all officers and non-commissioned officers. The uniform is of a dark blue color, with a high collar and a single-breasted jacket. The trousers are also dark blue, with a single-breasted waistcoat. The uniform is worn by all officers and non-commissioned officers.

4. Officers.

Recruitment. The recruitment of officers is by examination. The examination is held at the end of the year. The examination is held at the end of the year. The examination is held at the end of the year.

(A) "**Fähnjunker.**" Young men joining the ranks as candidates for commissions must be German subjects and have completed their 17th year; they must be physically fit, unmarried, and free from debt, and must be certified by the officer commanding the regiment as being of good character. They must be recommended by the officer commanding the regiment as being of good character. They must be recommended by the officer commanding the regiment as being of good character. They must be recommended by the officer commanding the regiment as being of good character.

The **Fähnjunker** performs at first the duties and receives the pay of a private soldier, but he takes his meals at the officers' mess. He is free to wear his civilian clothes, but he is not allowed to live in town. After 3 months' service he is usually promoted to the rank of corporal, and thereafter to the rank of *Unterleutnant*.

After 6 months' service (exclusive of periods of absence on leave or on account of sickness over 10 days) he may obtain his *Offizierspatent*, which entitles him to the rank of *Leutnant*. This is usually granted to the *Fähnjunker* who has been recommended by the officer commanding the regiment as being of good character.

Formerly termed *Aspiranten*.

The *Leutnant* is usually promoted to the rank of *Major* after 3 years' service. The *Major* is usually promoted to the rank of *Major* after 3 years' service. The *Major* is usually promoted to the rank of *Major* after 3 years' service.

As soon as the *Leutnant* is promoted to the rank of *Major*, he is ready to be sent to a War School. The *Major* is usually promoted to the rank of *Major* after 3 years' service. The *Major* is usually promoted to the rank of *Major* after 3 years' service.

A *Leutnant* must be appointed *Major* after 3 years' service. A *Leutnant* must be appointed *Major* after 3 years' service.

A *Leutnant* is a non-commissioned officer, next below the rank of *Major*, and wears an officer's sword-knot on his side-arm.

(B) **Cadets.**—The procedure in connection with the appointment of cadets from the Cadet Corps is as follows:

As soon as they have passed through the upper school class of the *Leutnantenschule*, at Gross Lichterfelde, they present themselves for the ensigns examination (*Leutnantsprüfung*). If they pass, they are promoted to the rank of *Leutnant*.

The best are retained for a year or more to go through the "Selects" class, whence they will issue direct as 2nd lieutenants.

b) The names of others are submitted to the Emperor for appointment to the rank of *Leutnant* as 2nd lieutenants, ensigns.

If the parents desire it and the young men are likely to profit by it, they may be sent to the War School at Gross Lichterfelde and pass through the lower and upper first classes; they can then be appointed ensigns after they have been through either or both of these. It takes a year to pass through each of the four classes, i.e., lower and upper second and lower and upper first.

The course for the rank of *Leutnant* is as follows: The course for the rank of *Leutnant* is as follows: The course for the rank of *Leutnant* is as follows.

The subsequent procedure in carrying out the experiment was as follows:

Ensigns.

As the above was done, passed their *Kuhurichapung* as
is dealt with as follows -

described on page 29.
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conducted

Journal of the American Medical Association

The officers' examination mentioned above is a purely military one, on the subjects taught at the War School. After passing this examination, the candidate receives a letter with a certificate that he has been "chosen" by his future brother officers, and that he is to be a member of the organization. The "choice" is no empty term. As the ensigns live at the War School, they are under the supervision of the officers, and are subject to their orders. They are also subject to the same discipline as the other members of the organization. The officers are the only ones who have the right to choose their own officers, and they are the only ones who have the right to choose their own members. The officers are the only ones who have the right to choose their own officers, and they are the only ones who have the right to choose their own members. The officers are the only ones who have the right to choose their own officers, and they are the only ones who have the right to choose their own members.

Exemptions from attendance at War School. 200

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Leutnant-Lieutenant and then only to a captain rank. At any time an officer who has completed a certain period of study, they must pass an examination in mathematics and any other subjects prescribed for themselves in the officers' examination.

Instruction after being commissioned. The above tests are all that are required for infantry and cavalry officers, but foot artillery, and engineer and pioneer officers, after 3 years service with their regiments or battalions as supernumerary 2nd lieutenants, join the Military Technical Academy* in Charlottenburg, where they undergo courses of from 1 to 3 years, at the end of which they are again brought on to the establishment of their units. A certain number of officers are selected for advanced courses of from 1 to 3 years more, which qualify them for special employments. Officers of field artillery go through a 4-months instruction course at the Field Artillery School of Gumnery at Lüttenberg. Twenty officers, however, of over 3 years' service are selected annually from volunteers and sent to the Military Technical Academy.

Special officers. There are four bodies of officers in the German Army whose appointment is governed by special regulations, viz., fortress construction officers, artificer officers, ordnance officers, and officers of the train depôts—

1. Fortress construction officers (*Festungsbau-Offiziere*) have the rank of 2nd-Lieutenant, lieutenant, and captain, the word *Festungsbau* being always prefixed to their rank. They are recruited from selected fortress construction sergeant-majors who have passed the examination for a commission. They are employed in the construction of permanent fortifications.

Artificer officers (*Feuerwerker-Offiziere*) have the rank of 2nd-Lieutenant, lieutenant, and captain, the word *Feuerwerker* being always prefixed to their rank. They are recruited from the ranks of their corps, and are appointed by the Sovereign. They are placed in charge of all stores and magazines.

3. Ordnance officers (*Zug-Offiziere*) have the same hierarchy and system of promotion from the ranks of

* Originally the Artillery and Engineer School, but this was discontinued with effect from 1907 and the school was transferred to the Military Technical Academy in Charlottenburg.

their corps as artificer officers. Their duties are similar to those of the officers of the Army Ordnance Department in the British service.

Officers of the train depôts (*Train-Depôt-Offiziere*) here are two of these in each train depot, the senior being in charge of the depot of transport material, the junior of that of medical material. They are generally selected by the Minister of War, subject to the approval of the Sovereign, from lieutenants of the Army unfitted for active service, and the highest rank they can attain to is that of brevet-major.

Numbers joining annually.—The total number of officers of all branches of the service who joined the German Army in 1911 was according to *von Lott's Jahresberichte*, 1,612 of these 60 were recruited from the Cadet Corps. In addition 248 cadets were appointed ensigns and brevet ensigns.

As 1,115 officers left during the year, there was an increase* of 493.

Quality of officers. The quality of the German officer of the present day is criticised from time to time, and attempts are made to prove that there has been a gradual deterioration of the Corps of Officers, due to the fact that whereas formerly it was recruited chiefly from the aristocratic and middle classes, now, these resources having proved insufficient, it has become necessary to draw largely on the rich tradesmen's and similar classes. As regards, however, his purely professional attainments, no deterioration is apparent. The professional ability of the German officer is universally admitted to be of a high order, and the foundation for the general efficiency of the Corps of Officers is laid during the training received at the War Schools.

One of the most important features of these schools is the very high professional attainments required from the staff and instructor.

The highest standard of education and scientific attainments of a practical and scientific nature. The selection of suitable officers are prepared with the greatest care, for if an officer

* From 1907 to 1910 the number of officers was 1,115 respectively.

... practical one, and
... German, when he has completed it, is fully
... in every way to fulfill his duties as a citizen.

As has been already stated, almost every candidate for a commission must pass through a War School, and, therefore, commence life in the Army with the same

" Supply of officers in war time for the additional
" " In times of war, the German Army has the
f. o. b. c. z. n. t. r. w. o.

3) $\text{Reserve} = I_{\text{res}} + I_{\text{res}}^{\text{new}}$

1 Then I was one of the standing V who retired in at least 18 years service and I was

Officers who were in the Standing Army
were less than 18 years of age and who passed
the first examination according to their

(6. One year after the 1954-55 season, a group of 100 men, 100 women, and 100 children, a total of 300 people, were sent to the same area at the same time. They were given the same instructions as the first group, and they then underwent two weeks of instruction and

they pass the necessary examination and are accepted by the other members of the "Corps of Reserve Officers," they obtain a commission either in the Reserve or in the *Landwehr*. If they elect for the former they must engage to serve for 3 years in it, during which time they are liable to be called out three times for periods of from 4 to 8 weeks' training.

Reserve and *Land* officers are, if qualified, promoted according to their seniority in the entire body of officers of the arm to which they belong *

Officers do not, as a rule, remain long enough in the Reserve to rise above the rank of captain.

These consist of specially recommended under-officers who have completed their service in the Standing Army, Reservo and Landwehr, i. e., are over 33 years of age and who are considered fit to perform the duties of lieutenants at posts, in garrisons, and with the Landwehr troops, and in time of war are employed in this way in order to decrease the number of officers who have to be withdrawn from units at all times.

Number of officers 100

Page				
	Infantry	Artillery	Engineers	Medical
Infantry & Cavalry	1	2	3	4
Artillery	5	6	7	8
Engineers	9	10	11	12
Medical	13	14	15	16
Signal	17	18	19	20
Transport	21	22	23	24
Other	25	26	27	28
Total	29	30	31	32

... If the lieutenant of the Standard Army was killed
... same day as he did and go to the same place.

Landwehr

	Infantry	Cavalry	Field Artillery	Foot Artillery	Engineers	Medical	Telegraph	Other
Infantry & Cavalry	10	8	7	4	4	4	4	4
Field Artillery	9	7	4	4	4	4	4	4
Foot Artillery	7	4	4	4	4	4	4	4
Engineers	4	4	4	4	4	4	4	4
Medical	4	4	4	4	4	4	4	4
Telegraph	4	4	4	4	4	4	4	4
Other	4	4	4	4	4	4	4	4

The number of officers in the Landwehr is the number of officers in the regular army.

It is understood that the Landwehr is prepared in peace time, that Reserve officers are posted to the regiments to which they belong, and that Landwehr officers in command of regiments may be employed in all cases where they are required. The Landwehr is organized in a similar manner to the regular army, and the officers are posted to the regiments in the same manner as in the regular army.

The supply of officers in the Landwehr is maintained by the Landwehr, and the officers are posted to the regiments in the same manner as in the regular army.

Efficiency of Reserve officers The importance of maintaining the efficiency of the reserve and Landwehr officer at as high a standard as is possible has apparently been realized, as the recent changes in the annual orders for the training of the Reserves have tended to improve the instruction received by the officer while he is periodically called out.

Voluntary service by Reserve officers either with troops or at the various schools is now encouraged as formerly, especially among those officers who are called out for mobilization to staff appointments and as commanders of units, and

* Probably a total of 8,000 to 10,000 officers in the Landwehr.

the periods of training for which they may receive pay have been increased.

In order to improve the training of "aspirant" officers (rule 2 (b), page 33), the experiment is being tried of sending them for half their course to camps of instruction, where they are formed into companies for instructional purposes.

The liability to be called up for training was not formerly rigidly enforced, but the authorities have recently become more strict in the matter.

Promotion and appointments. The promotion of officers is the prerogative of the Sovereigns of the four Kingdoms of Prussia, Bavaria, Saxony, and Württemberg. The first principle of promotion is that the officer promoted is the fittest in every respect for his new position, and this fitness is determined by inspection and not by examination.

Promotion is determined by the rank of the officer in the arm (infantry, cavalry, &c.) or Army.

Promotion within the regiment takes place to the rank of captain or major in the infantry and to the rank of captain or major in the cavalry and artillery.

Promotion throughout the arm takes place to the rank of lieutenant (Oberleutnant), to the rank of captain in the rifles, engineers, and pioneers, and train, and to the rank of major in all arms except infantry.

Promotion throughout the Army takes place to all ranks above the rank of major.

The average periods of service are—5 years as a 2nd lieutenant, 6 years as a 1st lieutenant, 8 years as a captain, 10 years as a major, 12 years as a lieutenant-colonel, 14 years as a colonel, 16 years as a major-general (Brigade Commander) and 18 years as a lieutenant-general (Divisional Commander). In the ordinary course a 2nd lieutenant of 18 years of age may hope to become a lieutenant-general by the age of 45.

The system of promotion is according to seniority, but it is a system as often departed from, more especially between the ranks of captain and major. Above the rank of major it is, as a rule, strictly adhered to, but here again it is necessary to point out that promotion in rank does not necessarily imply promotion in appointment. An officer may be promoted to a higher rank, but remain in the same appointment.

If an officer in the lower ranks does not satisfy the requirements (1936)

The Army Medical School at Berlin is under the Director General of Army Medical Services, and the Prussian Minister of War is Curator (For details, see page 219, "Military Resources of the German Empire, 1911.")

The course over, and students having taken their degree of doctor, they are attached to regiments, and may, after 3 months, be put forward for appointment as 2nd lieutenant (*Assistentarzt*). They are then balloted for by all the active medical officers of the division to which they belong, and the result is submitted to the Emperor.

In Bavaria and Saxony there is no military medical service, and the appointments are filled as is also the case in Prussia for a large number—either by students with university degrees who engage themselves as volunteers, or by men who are qualified to practise in civil life, and have already served as volunteers. In the latter case a small contribution is made towards what has been spent on studies. In all cases the future colleagues ballot for the candidate.

Grades of Medical Officers.—The grades of medical officers, who are assimilated in rank to combatant officers, but who have no combatant titles, are given in Appendix III.

6. Veterinary Officers.

On the 1st October, 1910, the veterinary surgeons, formerly classed as officials, were formed into the ranks of Veterinary Officers (*Veterinär-Offizierskorps*), and Regulations (*Militär-Veterinärordnung*) providing for the supply of such officers were approved on the 17th May of the same year.

Recruitment.—Veterinary officers of the Standing Army rank as officers, and are drawn from:

- As a rule, the sub-veterinary surgeons (*Unterveterinäre*) studying at the Military Veterinary Academy.*
- From selected civil veterinary surgeons who are appointed one-year volunteer or sub-veterinary surgeon during or at the termination of their service in the Standing Army and from the 2nd Lieutenants (*Veterinäre*) of the Reserve, who undertake to serve with the Standing Army.

* See page 219, "Military Resources of the German Empire, 1911."

(i) *Hungary* (..) enter the service as 1, 2, or 3-year aspirant veterinary officers (*Veterinäraspiranten*), and they must undergo the following training:—

- Six months' service with the colours with mounted troops.
- A course of 6 months at the Instructional Forge (*Lehrschmiede*) at Berlin.*
- A course of seven terms (about 3½ years) at the Military Veterinary Academy*.
- A final practical course of 6 months at both the Military Veterinary Academy and the Instructional Forge at Berlin.

The limit of age for an "aspirant" veterinary officer is 23, and he must be below this age on the 1st November of the year in which he joins.

The following is a list of the conditions for admission to the Military Veterinary Academy:

- A memorandum containing details of the candidate's education, as regards the last five years, and of his constitution and health, diseases suffered by him, and his family circumstances, especially position and place of residence, and is filled in.
 - Birth certificate.
 - A certificate of education from certain specified schools.
 - Certificate of character from the director of one of the schools.
- A declaration that he is willing to complete the service (1 to 3 years) he has elected for, which may have been interrupted by his entry into the Military Veterinary Academy, and further that he will perform active service for a period twice the duration of that which he has spent at the Academy.

One-year volunteers join as a rule on the 1st October of the year in which they elect to serve, and are allowed the choice of the unit with which they wish to serve. During their 6 months' service with the unit they are trained in the regiments, veterinary shops, and may be promoted lance-corporals at the termination of the period. If they are then reported on favourably to the Inspector of the Army Veterinary Service, they are allowed to join the Instructional Forge at Berlin, to the Director of whom certain regimental certificates are sent.

* See page 219, "Military Resources of the German Empire, 1911."
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CHAPTER II

ORGANIZATION AND NUMBERS AVAILABLE IN
PEACE AND WAR

PEACE ORGANIZATION OF ARMY

Territorial organization.—The recruiting system is based on the territorial organization of the Empire.

The German Empire is divided into 24 Army Corps districts, in each of which a complete Army-Corps is stationed and recruited, except in the case of the XVth and XVIIth Army Corps stationed in Alsace-Lorraine which are recruited from other parts of the Empire. The Prussian Guard Corps is stationed in Berlin, and is recruited from the whole of Prussia and from Alsace-Lorraine.

These Army-Corps districts are each divided into a certain number of brigade districts which are again sub-divided into *Landwehr* districts,* in each of which a small permanent staff for recruiting and mobilization purposes is maintained. The *Landwehr* districts have each a double sub-division, namely, (a) recruiting circles corresponding more or less to the civil sub-districts, and (b) company districts for purposes of mobilization and control of men of the Reserve and *Landwehr*.

The Army-Corps. From the above it will be seen that there are 25 Army Corps in all, allotted to the various States as follows:

- Guard Corps and Nos. I to XI, XIV to XVIII, XX and XXI—Prussian Corps.
- Nos. XII and XIX—Saxon Corps.
- No. XIII—Württemberg Corps.
- Nos. I, II and III—Bavarian Corps.

* A certain number of districts are allotted to each one of the *Landwehr* Inspectors. See footnote, page 93.

be forward
examined by
Veterinary Academy, passing to the Reserve after
tion, and may then be promoted to the rank of Captain
which rank is
referred to as
submitted to
by the Director of Military Veterinary
correspondence
some cases
submitted through
to the
as one year
transferred to
to the Military Veterinary Academy as an
on their return

Grades of Veterinary Officers. The grades of veterinary officers, who are assimilated in rank to substantive officers, but who have no combatant titles, are given in Appendix III

Each Army Corps comprises 2 divisions, 1 or 2 pioneer battalions, a train battalion, and a varying number of battalions of foot artillery (some with draught sections), some Army-Corps also have 1 or 2 rifle (*Jäger*) battalions, a machine gun battery (*Abschwung*) and a fortress machine gun detachment (see page 181).

The technical troops, such as railway, telegraph and aircraft troops, are assigned irregularly to the Guard Ist, IIrd, Vth, VIIth, Xth, XIIth, XIIIth, XIVth, XVth, XVIth, XVIIth, XVIIIth, and Ist Bavarian Corps.

Divisions and brigades—Each division consists, as a general rule, of 2 brigades of infantry, 1 brigade of cavalry and 1 *Brigade** of field artillery, but 6 divisions, the 2nd Guard, 10th, 11th, 14th, 17th and 29th, have 3 brigades of infantry.

In the Prussian Guard Corps the cavalry is organized in a division of 4 brigades.

Each infantry and cavalry brigade, and artillery *Brigade*, is composed of 2 regiments, but 5 infantry regiments, 2nd and 3rd Guard, 5th, 49th, 54th and 62nd, have 3 regiments.

Total number of units.—On the 1st October, 1913, the Army consisted of

[illegible]

* The German Brigade of 3 regiments must not be confused with the 1st German Brigade of 8 batteries which is known in Germany as an "Infanterie-Brigade".

3. 3 squadrons will shortly be formed, bringing the total to 12.

§ 1. The force of 9 He- batteries at the Field Artillery and 2 battalions of mounted horse sections in the Foot Artillery, 8:00.00. 1914-15.

Peace strength Law 1911. The Law of 1911 (Peace strength) Law of March, 1911, it was decreed that, from the 1st April, 1911, the peace establishment of the Army was to be increased (not counting officers, non-commissioned officers over the rank of lance-corporal, or non-volunteers) so as to reach a total of 615,321 by 1913, a 1 to remain at that figure until the expiration of the term of 6 years at the end of March, 1916. By the Law of the 14th June, 1912, for supplementing the Law of March, 1911, the peace establishment was increased to 549,311, and by the Law of June, 1913, it was again increased, the numbers to be annually contributed by the various States being fixed as follows:

Prussia,	...	...	...	...	613,008
Bavaria,	...	...	...	...	79,166
Saxony,	...	...	...	...	13,400
Westphalia,	...	...	...	...	408
					66,166

The units to be by 1916

* 681 battalions of infantry
1560 squadrons of cavalry
* 623 batteries of field and horse artillery
\$ 65 battalions of foot artillery
+ 2 battalions of pioneers
31 battalions of communication troops.
26 battalions of train

Peace establishment. -The peace establishment of the Army, which is only calculated on the basis of a financial minimum, was, according to the Law of 1913, as follows on the 1st October, 1913:

§ Excludes 8000 persons at the Fort Artillery School of Training

Ar	Inf	Art	Gen Staff	M	Adm
Infantry including rifles and a staff	614,550	5,78	..	141,4	..
M. machine-gun units	24,8	3	..	10	..
Fortress detachments	..	..	..	..	..
Cavalry	86,114	4,238	..	..	..
Field artillery	11,304	5	3,307	..	..
Foot artillery	84,880	7,30	020	..	..
Engineers	24,01	..	..	..	..
Communication troops	..	..	..	..	..
Railway troops	..	..	..	..	..
Medical troops	8,835	..	..	..	..
Medical troops	5,775	..	..	..	..
Medical troops	..	..	..	..	..
Experimental detachments	..	..	..	..	..
Training	..	7,1	..	..	..
Observations and departments	..	..	..	..	..
Total	719,93	5,188	4,52	166	..

Figures given above are for the year 1911.

Rank	Number
General	4
Major-General	785
Colonel	..
Major	1,174
Captain	18,07
Specialist	..
Medical officer	1,450
Veterinary officers	..
Paymasters and assistants	..
Band inspectors	..
Artillery	..
Non-commissioned officers	..
Ranks and files	..

* Not included in the list.

Imperial Headquarters Staff	25,000
Imperial Headquarters Staff	16,000
Imperial Headquarters Staff	1,000
Total	42,000

The total peace strength may have to be assessed at 836,000, which will be increased to 850,000 on the outbreak of war.

WAR ORGANIZATION OF ARMY

Main sub-divisions. On mobilization the Army is divided into:

1. The Field Army (*Feld-Armee*) for operations in the field.

(a) Field Troops (*Feld-Truppen*), or the Standing Army mobilized.

(b) Field Reserve Troops (*Feld-Reserve-Truppen*), formed on mobilization on cadres borrowed from the Standing Army and destined to support or co-operate with the Field Troops.

(c) Special field formations (*Besondere Feld-Formationen*) of the artillery, engineers, &c.

II. The Garrison Army (*Besatzungs-Armee*), which is drawn from home troops to replace losses in the Field Army.

(a) Depot Troops (*Einzel-Truppen*).

(b) Garrison Troops (*Truppen*).

(c) Landwehr Troops (*Landwehr-Truppen*).

The above categories belong to the formations of the lines of communication and railways.

I.—The Field Army.

(a) FIELD TROOPS.

Imperial Headquarters Staff. The Emperor takes the field at the head of the Army as Commander in Chief (Ober-

Kommandierender Kronober) His Staff comprises the following elements*—

- (a.) Personal staff. A number of German Princes and () probably also the Imperial Chancellor and Chief of the Civil Cabinet. The total would reach perhaps 140 officers and gentlemen, 200 retainers, 300 horses, and 50 vehicles.
- (b.) Military Cabinet. 5 officers, 40 non-commissioned officers and men, 40 horses, and 6 vehicles.
- (c.) *Adjutantur*. 12 officers, 40 men, and 50 horses.
- (d.) Great General Staff. 20 officers, 15 clerks, 60 men, 120 horses, and 12 vehicles.
- (e.) Ministry of War. The Minister of War and his staff would very likely remain at home, he would, in Molke's opinion, be more useful there. If in the field, he would bring 14 officers, 40 men, 45 horses, and 7 vehicles.
- (f.) Inspector of Field Artillery.—4 officers, 13 men, 18 horses, and 1 vehicle.
- (g.) Inspector-General of Foot Artillery. —4 officers, 13 men, 18 horses, and 1 vehicle.
- (h.) Inspector-General of Engineers and Pioneers. 4 officers, 13 men, 16 horses, and 1 vehicle.
- (i.) Inspector-General of Lines of Communication and Railways (for departments under him, see page 64). Total. 21 officers, 20 officials, 14 clerks, 33 men, 188 horses, and 19 vehicles.
- (j.) Commandant Imperial Headquarters. —2 officers, 3 men, 5 horses, and 1 vehicle.
- (k.) Staff Guard.—Mounted—5 officers, 185 men, and 185 horses; Dismounted—4 officers, 252 men, and 240 horses.
- (l.) Supply column. 24 men, 38 horses, 10 vehicles.
- (m.) Guard Police. 1 officer, 24 men, and 27 horses.
- (n.) Field Post Office. 70 men, 24 horses, and 9 vehicles.
- (o.) King's Messengers (*Reitendes Feldjäger Korps*). 10 officers, 10 men, and 30 horses.
- (p.) Police. 4 officers, 11 men, 6 horses, and 2 vehicles.

* Numbers only approximate—they are based on the numbers of 1870 and in a future war might be increased.

The grand total of the Imperial Headquarters Staff would therefore amount to about 225 officers, 46 officials, 1,068 men, 954 horses, and 115 vehicles.

An Army

Staff.—The Staff of an Army would be constituted as follows—

- (a.) Commander and General Staff.—One field-marshal or general, one general officer as Chief of the Staff, a colonel as *Chief Quartermaster*, four officers of the General Staff, and four *Adjutant* officers.
- (b.) Staff Officer for Foot Artillery. His main duty is to keep the artillery material complete and in good order, and to ensure the supply of ammunition for all guns.
- (c.) Staff Officer for Engineers and Pioneers.—With staff of three officers. He is responsible for the material of a pioneer formation, and would take charge of engineering work on a large scale.
- (d.) Staff Officer for Telegraphs.
- (e.) Staff Officer for Railways.
- (f.) The Army Intendant. With staff of seven officials (see page 225).
- (g.) The departments of the Principal Medical Officer and the Advocate-General, the Commandant of Headquarters, Staff Guard, Supply Column, Field Police, Field Post Office, and King's Messengers, require no further detailed explanation.

The total of an Army Staff would amount to about 37 officers and officials, 176 men, 177 horses, and 35 vehicles, including 8 motor vehicles.

Organization.—The forces would be organized in several Armies (not more than seven), each of three to five Army-Corps, including possibly a third (Reserve) Division to be formed on mobilization for each Army-Corps, and one to three Cavalry Divisions (or a Cavalry Corps).

An Army-Corps

Staff.—An Army Corps is commanded by a general or lieutenant-general, with a Chief of the Staff (lieutenant-general), a Chief of the General Staff, four officers (major

and three captains) of the General Staff, and three *Adjutants*
officers

The three *deputados* officers divide up the routine work connected with "status," casualties, returns, prisoners, and staff bi-letting.

To each Army-Corps is attached a detachment of field police (one officer, 52 non-commissioned ones, 40 P. A. and 100 men) for military police duties.

The auxiliary services attached to the Army consist of headquarters comprising the Corps Intendant, Field Post Office, Supply Office, Field Bakery Office, Office of the Principal Medical Officer, Field Post Office, and Judge Advocate's Office, none of which contain officers except the office of the Principal Medical Officer (three), and a Corps Veterinary Officer.

Field Administrative	7	14.3	1.3	5.7
Field Administrative	4	8.6	0.9	4.1
Field Administrative	4	8.6	0.9	4.1

Total, #grants, and money and communication units

Pioneer field companies

1 pioneer field company 1 for each division and 1 Corps

1 Corps and 2 divisional bridge trains 3 bridge trains

1 Corps and 2 divisional telephone detachments 3 telephone

1 Corps telegraph detachment

Wireless telegraph stations, field searchlight sections and field

searchlight detachments will be attached to certain Army Corps

Total approximate strength:

Infantry	44,000
Cavalry	16,000
Artillery	4,000
Machine-guns	480
Vehicles	2,000

The fighting strength of an Army Corps, exclusive of officers, may be broadly taken at 25,000 rifles, 800 or 1,800 lances and carbines, 48 machine guns, and 160 guns.*

A Division.

Staff. A division is commanded by a lieutenant general or major general, who has a staff of one field officer of the General Staff and two *Adjutant* officers (a captain and a subaltern), a headquarters commandant in command of a small staff guard, and an officer in charge of the 2nd line transport of the division.

The auxiliary services attached comprise a Divisional Intendence, a Divisional Supply Office, a Principal Medical Officer, a Field Post Office, a Judge-Advocate's Office, and 3 Chaplains.

Divisional Staff

	Officer commanding	Adjutant	Adjutant	Adjutant
Staff	6	18	12	5*
1st	4	12	8	9
2nd	12	8	12	14

* See footnote	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st	32nd	33rd	34th	35th	36th	37th	38th	39th	40th	41st	42nd	43rd	44th	45th	46th	47th	48th	49th	50th	51st	52nd	53rd	54th	55th	56th	57th	58th	59th	60th	61st	62nd	63rd	64th	65th	66th	67th	68th	69th	70th	71st	72nd	73rd	74th	75th	76th	77th	78th	79th	80th	81st	82nd	83rd	84th	85th	86th	87th	88th	89th	90th	91st	92nd	93rd	94th	95th	96th	97th	98th	99th	100th
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Organization. A division comprises

Divisional Staff and auxiliary services

2 brigades of infantry* = 4 regiments 12 battalions

3 or 4 squadrons of cavalry (divisional cavalry)

1 Brigade of field artillery (divisional artillery) = 2 regiments = 4 *Abteilungen* = 12 batteries, with 4 light artillery ammunition columns.

1† pioneer field company

1 divisional bridge train and 1 or 2‡ bearer companies.

1 telephone detachment

Total approximate strength of a division

Infantry	56,000
Cavalry	4,000
Artillery	2,000
Machine-guns	248
Vehicles	1,000

The fighting strength of a Division, excluding officers, may be taken as 12,000 rifles, 450 or 600 lances and carbines, 24 machine-guns, and 72 guns.

A Cavalry Division.

Staff.—The staff and auxiliary services are on the same lines as those of a division, the strength being 23 officers, 68 other ranks, 75 horses and 15 vehicles (which include 3 motor cars, 1 motor lorry for supplies, and 1 for petrol.)

Organization.—A cavalry division comprises

Staff and auxiliary services

3 cavalry brigades = 6 regiments = 24 squadrons

3 batteries of horse artillery, with light ammunition column

1 machine-gun battery

1 detachment of pioneers (on cycles or in wagons)

1 field signalling detachment

1 for each *Abteilung* and wireless telegraph stations may also be attached

* For the organization of a division

† Division of each Army-Corps has a Reserve pioneer company

‡ See footnote

§ See footnote

52

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Approximate War Establishments.

The detail of the smaller units is, approximately, as follows:—

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[illegible]

Expansion of Certain Services on Mobilization.

Ammunition columns.--Each regiment of field artillery is provided with two ammunition columns, each consisting of one or more establishments of mules or horses and two artillery men.

artillery and four infantry ammunition columns, one of the
 division units containing ammunition for the

The division units are organized as follows: (a) Heavy
 machine gun company, (b) light machine gun company, (c) mortar
 company, (d) signal company, (e) medical company, (f) veterinary
 company, (g) quartermaster company, (h) commissary company, (i)

Pioneer units

The division units are organized as follows: (a) Heavy
 machine gun company, (b) light machine gun company, (c) mortar
 company, (d) signal company, (e) medical company, (f) veterinary
 company, (g) quartermaster company, (h) commissary company, (i)

(iii) **Telegraph units.** The telegraph units are organized as follows:
 telegraph units, as follows: (a) Division telegraph unit, (b) Army
 Corps telegraph unit, (c) Army telegraph detachment for each Army
 Corps, (d) Army telegraph detachment for each Army Corps, (e)

(iv) **Train units.** The train units are organized as follows:
 peace establishments, provides the following on mobilization:

- (1) Drivers and horses for the 1st and 2nd divisions.
- (2) Drivers and horses for the ammunition columns.
- (3) All animal train units, such as supply columns, transport
 remount companies, field ambulances, field bakeries, etc.

(v) **Medical.**—The medical units are organized as follows:
 medical units, as follows: (a) Division medical unit, (b) Army
 Corps medical unit, (c) Army medical detachment for each Army
 Corps, (d) Army medical detachment for each Army Corps, (e)

3. The division units are organized as follows:
 division units, as follows: (a) Division telegraph unit, (b) Army
 Corps telegraph unit, (c) Army telegraph detachment for each Army
 Corps, (d) Army telegraph detachment for each Army Corps, (e)

* See also Chapter V, page 103.
 * See also Chapter IX, page 107.
 * See also Chapter X, page 111.

The division units are organized as follows:
 division units, as follows: (a) Division telegraph unit, (b) Army
 Corps telegraph unit, (c) Army telegraph detachment for each Army
 Corps, (d) Army telegraph detachment for each Army Corps, (e)

The field hospital is organized as follows:
 field hospital, as follows: (a) Field hospital, (b) Field hospital, (c)

(vi) **Veterinary.**—The veterinary units are organized as follows:
 veterinary units, as follows: (a) Veterinary unit, (b) Veterinary
 unit, (c) Veterinary unit, (d) Veterinary unit, (e) Veterinary unit, (f)

(vii) **Intendence and supply.**—The intendence and supply units are organized as follows:
 intendence and supply units, as follows: (a) Intendence and supply unit, (b)

Pay Department is organized as follows:
 Pay Department, as follows: (a) Pay Department, (b) Pay Department, (c)

Communication services are organized as follows:
 communication services, as follows: (a) Communication services, (b)

Communication services are organized as follows:
 communication services, as follows: (a) Communication services, (b)

(b) FIELD RESERVE TROOPS.

The Field Reserve Troops are intended immediately to
 replace the Field Troops, and, if necessary, to take their
 places alongside them. They are formed of those men of the
 Standing Army who are not absorbed by the formation of the Field Troops and the cadres of their
 depôts, and of the men of the 1st Ban of the *Feldwehren*, the

It is organized into 50 divisions, can form on mobilization
 a Reserve division.*

The Reserve divisions might be formed into fresh

The Reserve divisions might be formed into fresh
 divisions, as follows: (a) Reserve division, (b) Reserve division, (c)

Army-Corps or be used as reserves to the regular Army-Corps.

In addition, no doubt, a number of *Landwehr* battalions would be sent for the purpose of occupying the conquered territory, the *Grenadier* fortresses, &c.

Every Reserve unit will carry the emblem of the active unit to which it is affiliated, with the word "Reservé" added.

Reserve units are equipped and dressed like the first line troops, with the exception that the *Landwehr* cross in white metal is worn on the helmet and forage cap.

(c.) SPECIAL UNITS FORMED ON MOBILIZATION

(1) Central ammunition depôts

These are formed from the *Landwehr* units of the *Landwehr* Corps and the *Landwehr* units of the *Landwehr* Corps. They are formed from the *Landwehr* units of the *Landwehr* Corps and the *Landwehr* units of the *Landwehr* Corps.

Heavy batteries. In addition to the 15-cm. howitzer and 15-cm. star batteries described in Chapter V. I., pages 153 and 156, there are long 15-cm. and 16-cm. guns. These are employed in the field as guns of position in the event of a siege. (11,000 yards) being necessary.

Siege batteries. These are formed from the *Landwehr* units of the *Landwehr* Corps and the *Landwehr* units of the *Landwehr* Corps.

Field "Gendarmes" (Field Police).—These are formed from the *Landwehr* units of the *Landwehr* Corps and the *Landwehr* units of the *Landwehr* Corps.

Staff guards, the Emperor's Bodyguard. These are formed from the *Landwehr* units of the *Landwehr* Corps and the *Landwehr* units of the *Landwehr* Corps.

One of the King's Messengers (for important despatches) have been already referred to under "Staff" of units.

Field post office formed from the *Landwehr* units of the *Landwehr* Corps and the *Landwehr* units of the *Landwehr* Corps.

One of the Imperial Messengers. These are formed from the *Landwehr* units of the *Landwehr* Corps and the *Landwehr* units of the *Landwehr* Corps.

Local home staffs. These are formed from the *Landwehr* units of the *Landwehr* Corps and the *Landwehr* units of the *Landwehr* Corps.

Army-Corps and brigades. These are formed from the *Landwehr* units of the *Landwehr* Corps and the *Landwehr* units of the *Landwehr* Corps.

These are formed from the *Landwehr* units of the *Landwehr* Corps and the *Landwehr* units of the *Landwehr* Corps.

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II. The Garrison Army.

(a) DEPÔT TROOPS (ERRATZ-TRUPPEN)

The Depot Troops are intended to make good the losses in men, horses and material suffered by the corresponding field units, and serve as a nucleus for new formations. They are formed at the peace stations of the units of the Field Troops. No cadres are maintained for them in peace time, except in those cavalry regiments which will only mobilize four squadrons for the field, the fifth squadron remaining at the regimental headquarters to form the depot squadron.

The ranks of the depôts are filled up by—

(i) Recruits of the Standing Army who have not received sufficient training to take the field.

(ii) Ersatz reservists.

(iii) Men of the active units temporarily unfit to take the field. The officers are made up from a few officers of the Standing Army, the remainder being Reserve or *Landwehr* officers and, in the junior grades, sergeant-major lieutenants.

A few of the non-commissioned officers are drawn from the corresponding active units, selected as good drill instructors, or as less fitted for a field service.

As a rule, when the effective of a unit of the Field Troops is diminished by 5 per cent., a requisition for reinforcements is sent direct to the depot unit. The officer commanding the depot unit informs the territorial authorities of the number of reinforcements required.

The depot unit is formed from the *Landwehr* units of the *Landwehr* Corps and the *Landwehr* units of the *Landwehr* Corps.

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The depot unit is formed from the *Landwehr* units of the *Landwehr* Corps and the *Landwehr* units of the *Landwehr* Corps.

Depôt units are formed as follows

Infantry.—Each regiment of the Field, Field Reserve, or *Landwehr* Troops forms a depot battalion, and every rifle battalion forms a depot company.

Each regiment mobilizing all four or six squadrons forms a depot squadron. These regiments, forming the cavalry division, which is about four squadrons, leave the fifth squadron at peace headquarters as the depot squadron. Each Reserve regiment forms a depot squadron.

Artillery.—Depôt batteries are formed for all field artillery batteries of the Field, Field Artillery, and *Landwehr* Troops probably in the proportion of one to every six, that is one to every regiment.

No special dépôts are formed for the foot artillery. The battalions of *Landwehr* foot artillery retained in the home garrisons would serve as dépôts for their corresponding, new and *Landwehr* formations.

Each pioneer battalion forms a depot company. These probably form depots in one depot battalion to every regiment of heavy troops, and one depot company to every telegraph, and mechanical transport battalion.

Train. A depot train battalion of three companies is formed by every train battalion.

(b.) GARRISON TROOPS

These troops constitute in war the garrisons of the towns of the interior, of the fortresses, and of coast and inland defensive works. They may serve it as in a large land force, and they are the main element of the full strength of the Empire being put forth, even were the country not invaded. They comprise chiefly the men of the 2nd Bau of the *Landwehr*, and a small number of the 1st Bau that are used for the Field Reserve troops.

It is believed that arrangements are made to mobilize a large number of *Landwehr* brigades which would probably include the garrison troops.

These troops are distinguishable by the waterproof cap they wear with the white *bandolier* cross on the

(c) LANDSTURM TROOPS

The *Landsturm* is called out by Imperial proclamation in case of great national emergency and would be used for home defence only. The *Landwehr* are of very different values, the 1st containing untrained men between 17 and

50 years of age and the [redacted] [redacted] of
from 39 to 45 years of age [redacted] (page 13). On mobilization the
men of the 1st [redacted] [redacted] probably be used for non-com-
batant posts in the [redacted] Army while the men of the
2nd Ban would be formed in separate Landsturm units, or
[redacted] [redacted] [redacted] [redacted]

It is not possible to state what the exact original rate of *in situ* would be, but it has been calculated that the *in situ* of rainfall in the forests is 23,000 w. h. e. (18, 1911)

[illegible]

Estimated fully Mobilized Strength

The table below sets out approximately what is estimated by the German High Command to be the fully mobilized strength of the German Army by arms.

Personnel

Arms	Infantry	Cavalry	Field artillery	Field and communication troops
Infantry	666,000	2,884,000	278,000	2,328,000
Cavalry	68,000	57,000	1,000	260,000
Field artillery	156,000	158,000	88,000	40,000
Field and communication troops	444,000	60,000	70,000	144,000
Pioneers and communication troops	70,000	30,000	26,000	128,000
Total	82,000	N	N	5,000
	1,021,000	65,000	72,000	3,300,000

Trained reserve	3,300,000
Partially trained reserve	600,000
Untrained reserve	1,000,000
Total reserve	4,900,000

Total trained officers and men	4,186,000
Partially trained reserve	118,000
Untrained reserve	5,684,000

Grand total 9,988,000

* Stand by for service in the German Army Reserve and Landwehr in 1914.

Horse and Field Guns

Arms	Infantry	Cavalry	Field artillery
Infantry	5,198,000	250,000	878,400
Cavalry	1,000	1,500	2,000

Lines of Communication and Railway Services in War.

THE INSPECTOR GENERAL OF LINES OF COMMUNICATION AND RAILWAYS

At the head of all branches connected with the lines of communication and the railway services in war is the Inspector-General of Lines of Communication and Railways. He is a member of the Imperial Headquarters, and receives his orders from the Chief of the General Staff, he ranks with an Army Corps Commander.

On the lines of communication themselves a sharp distinction is drawn between the administration of the lines and the administration of the railway services, but the two administrations are strictly centralized in the person of the Inspector-General.

This officer is a general officer of high rank, whose duties are to superintend the military administration of occupied portions of the enemy's territory, the formation of magazines, hospitals and depôts, the creation of lines of communication and the establishment of posts for their security, the supervision of the occupied territory by garrisons and flying columns, and the organization and regulation of the conveyance, escort and railway services. He must co-operate with the Intendant-General of the Field Army, with whom he is on an equal footing, whenever the latter requires the use of the railways for forwarding supplies, for the provision of which the Intendant-General is responsible, as also for payments and accounts.

The Inspector-General, in addition to his own staff, has under his orders

- (1) The Inspectors of Communications, of which there is one to each Army or independent Army-Corps.
- (a) The Chief of the Field Railway Service
- (ii) The Chief of the Army Medical Service
- (vi) The Chief of the Field Telegraph Service
- (v) The Field Postmaster-General

ORGANIZATION OF LINE OF COMMUNICATION

General.—Every Army or independent Army Corps has its own line of communication under an Inspector. The areas on the line of communication (*Etappen-gebiete*) assigned to each Army and the limits of the administrative area are decided upon by Imperial Headquarters. During the operations the boundary between the area of operations and the area of the line of communication is fixed by the Headquarters of each Army.

A railway station is assigned to every Army Corps as a Home base (*Etappenanfangsort*) whence supplies are forwarded to the collecting station. The collecting station is not too far from the theatre of war, where a line of communication main depot (*Etappenhauptort*) is assigned to each Army, the situation of which will change according to the progress of operations.

Between the collecting station and the main depot a transfer station (*Ueberrangstation*) is established. This station marks the point where the war railway service begins.

The main depot marks the position of the line.

The several Army Corps of the Army are connected with the main depot by one or more posts (*Etappenorte*) which are formed on the line of communication about 13½ miles apart. Filling up places are established within reach of the Army Corps or Reserve Division.

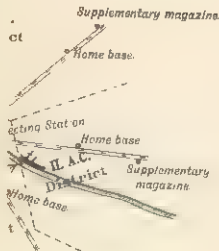
Communication between the main depot and the several portions of the Army is by field railway, road, or water.

The system of communications for an Army is best shown graphically (*see* diagram opposite).

To the main depot and to every post a commandant is appointed.

To face page 64

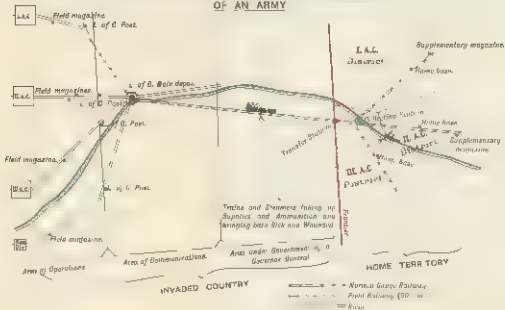
TION



ME TERRITORY.

Large Railway
way (60 c m).

DIAGRAM SHOWING THE LINES OF COMMUNICATION OF AN ARMY



At the main depôt are established a line of communication depôt, armament depôt, a large detachment, and medical depôt.

At the several posts are established line of communication depôts, ammunition depôts, and stationary hospitals.

The Inspector of Communications. An Inspector of Communications with headquarters at the main depôt is responsible for the line of communication of the Army or independent Army-Corps to which he is appointed. He is a general officer ranking with a Divisional Commander, and is partly under the orders of the Inspector-General of Lines of Communication. His duties are, partly, under the orders of the Inspector-General, to regulate the line of communication, to provide for the security of the lines of rail and road, to regulate the transport services by road or water, to provide for the security of the lines of rail and road, to inspect periodically his line, to construct fortifications or fortified posts where such are required, and, in general, to conform to the instructions of the Inspector-General.

The Inspector of Communications is kept fully informed by the Army Commander of all movements of troops and of proposed operations, and he does all he can to maintain intimate relations with Army Headquarters, to inform them of all changes in his line of communication, to foresee probable requirements and to be prepared to meet them.

He is assisted by a staff consisting of one Chief of the Staff, one General Staff officer, one Adjutant-General, one Captain of Artillery, one Engineer, one Paymaster, one Veterinary Officer, and one Sanitary Officer.

He has jurisdiction over—

- (a.) The Field Police (*Gendarmes*).
- (b.) The Line of Communication Commandants.
- (c.) The Line of Communication Intendants.
- (d.) The Commanders of the Line of Communication Train Service and Ammunition Parks.
- (e.) The Medical Department.
- (f.) The Judge Advocate's Department.
- (g.) The Pay Department.
- (h.) The Veterinary Department.

- (c) The Line of Communication Telegraph Directorate
- (d) The Postal Department
- (e) The Clothing Depôts
- (f) The Civil Administration
- (g) The Works Department (*Arbeitsamt*)
- (h) The Line of Communication Troops

The Chiefs of the Field Railway, Army Medical, and Field Telegraph Services have a twofold responsibility. They are under the Chief of the Staff for control of their several services in connection with the Field Army, and under the Inspector-General of Lines of Communication and Railways as regards the control of their several services on the lines of communication.

The Railway Service.

Peace organization.—In peace time the railway system of the German Empire is divided into 26 "Line commands," lettered A-Z. Each of these "line commands" is under a Line Commandant, whose business it is to study and keep up to the minute mark the *personnel*, rolling stock, &c., of his command; he is assisted by a civilian. The Line Commandants report to the Railway Section of the Great General Staff, who work out and keep up to-date the general plans of transport by rail in various directions.

War organization. On mobilization being ordered, the Railway Section of the Great General Staff continues to control all transport on the Home Lines until the Inspector-General of Lines of Communication and Railways is appointed, when he takes over the general management of the railway service. The Chief of the Field Railway Service (*Chef des Feld-Eisenbahn-Dienstes*) is appointed.

Chief of the Field Railway Service.—This officer directs the whole of the railway service of the Army, and has under him:

- (a) The Railway Section of the Great General Staff as constituted in war
- (b) The Line Commandants
- (c) The Directors of Military Railways
- (d) The Railway Station Commandants

Those portions of the lines in rear of the transfer station, i.e., in the Home territory, are under the Railway Section of the Great General Staff; those portions in front of the transfer station are under the Directors of Military Railways.

The Line Commandants are appointed to sections of lines, and are responsible for the charges between the military and civilian railway.

System of transport by rail.—The system of transport by rail is divided into three main sections: (1) the Home Lines, (2) the Military Railways, and (3) the Railway Station Commandants. The Home Lines are under the control of the Great General Staff, the Military Railways are under the control of the Directors of Military Railways, and the Railway Station Commandants are under the control of the Line Commandants.

The Home Lines are divided into three main sections: (1) the North German Lines, (2) the West German Lines, and (3) the South German Lines. The Military Railways are divided into three main sections: (1) the North German Military Railways, (2) the West German Military Railways, and (3) the South German Military Railways. The Railway Station Commandants are divided into three main sections: (1) the North German Railway Station Commandants, (2) the West German Railway Station Commandants, and (3) the South German Railway Station Commandants.

The North German Lines are under the control of the North German Line Commandant, the West German Lines are under the control of the West German Line Commandant, and the South German Lines are under the control of the South German Line Commandant. The North German Military Railways are under the control of the North German Director of Military Railways, the West German Military Railways are under the control of the West German Director of Military Railways, and the South German Military Railways are under the control of the South German Director of Military Railways. The North German Railway Station Commandants are under the control of the North German Line Commandant, the West German Railway Station Commandants are under the control of the West German Line Commandant, and the South German Railway Station Commandants are under the control of the South German Line Commandant.

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The Telegraph Service.—The Telegraph Directorate is the line of communication are immediately under their own Inspectors of Communications for purposes of discipline and administration, but are subservient to the Chief of the Field Telegraph Service in technical matters generally, and for co-operating with the field telegraph system in particular. For this purpose the Chief of the Field Telegraph Service supplies the Telegraph Directors with information regarding the extent of their sphere of operations, their position as regards neighbouring Telegraph Directorates, the extent to which they may use the State telegraphs or other available telegraph systems for purposes of their own line of communication, the positions of stores of telegraph equipment in the territory on the frontier, the dismantling, improvement, or permanent maintenance of lines established by the field telegraph troops or the taking over of existing permanent lines and the measures to be taken to maintain connection with the field telegraphs during the progress of operations.

On their part the Telegraph Directors keep the Chief of the Field Telegraph Service informed as regards the extent and nature of, and time required for the repair of, or improvement to, lines which they have taken over, position and nature of the stations, nature of connection with the field telegraph, distribution of personnel in the area assigned to them and the number of personnel and amount of equipment they have available.

Lanes of Communication Troops.—In principle, the lines of communication are guarded by a portion of the Field Troops until the arrival of the Reserve, *Landwehr*, or other troops detailed especially for that purpose. The number of troops so employed will, of course, vary greatly with the length of the lines to be guarded, the temper of the population and the nature of the country.

CHAPTER III.

ADMINISTRATION OF THE ARMY AND STAFF

COMMAND AND CONTINGENTS

The German Emperor is supreme head of the military forces which the 36 States (including Alsace-Lorraine), forming the empire, can put into the field.

He has the right to order the mobilization of the Army, but unless the territory or coasts of the empire are menaced, he cannot declare war without the consent of the Federal Council (*Bundesrat*).

He has the right to inspect the whole Army (with a view to ensuring uniformity), and to fix the effective strength, organizations, garrisons, and certain other matters. His powers, are, however, somewhat modified by various conventions with the three kingdoms of Saxony, Bavaria, and Württemberg.

In time of war the authority placed in his hands is not restricted in any way.

The contingents under separate administration are

- (1) The Army of Prussia and the Armies of the minor States administered by Prussia, 19 Army-Corps.
- (2) The Army of Bavaria, 3 Army Corps.
- (3) The Army of Saxony, 2 Army Corps.
- (4) The Army of Württemberg, 1 Army-Corps.

GENERAL MILITARY SYSTEM

Division of work.—The general military system of the German Army falls broadly under three headings, which are kept quite separate—

1. Administration (administrative departments)
2. Staff work (thinking departments).
3. Appointments (personal departments).

[illegible]

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Uniform

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The staff of the German Army consists of

- A. The General Staff
B. The Great General Staff
C. The *Adjutantur* (Administrative or Routine Staff)

A.—The General Staff.

Organization The General Staff, as its name implies, supplies staff officers to the whole Army; every staff officer (except purely personal staff and certain specially selected ones) is held responsible to the staff of the Army as a whole, and is not attached to any particular Staff officer or to any particular staff of any Army Corps or Division.

(General Staff. In addition to being the responsible authority for the selection of training of staff officers, he is responsible for the preparation of plans of campaigns and plans of mobilization, and for the movements and methods of employment of the Army in war.

(General Staff a body of highly trained officers in Berlin. It is, perhaps, necessary to insist on the definition of this body for, though the two, *en. n.*, the General Staff and the Great General Staff, are part of the same, their functions are distinct - a point sometimes lost sight of

It is the spirit of the law that gives the law force.

[illegible][illegible][illegible]

policy. He is quite independent of politics, and is responsible to the Emperor alone.

Since 1871 the position of the Chief of the General Staff has been that of a permanent office, and it has been held by the same person since 1871. The position of the Chief of the General Staff is that of a permanent office, and it has been held by the same person since 1871.

In time of war the action of the Chief of the General Staff begins from the moment when he receives the orders from the Emperor, the Minister of War, the Kaiser, and the various other authorities. He is then in a position to direct the operations of the army, and to coordinate the actions of the various branches of the army, and to coordinate the actions of the various branches of the army.

Duties of the General Staff in war. General von Schlieffen, the Chief of the General Staff, has defined the duties of the General Staff in war as follows: "The duties of the General Staff in war are to coordinate the actions of the various branches of the army, and to coordinate the actions of the various branches of the army."

1. To coordinate the actions of the various branches of the army, and to coordinate the actions of the various branches of the army.

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B. The Great General Staff

Organization. The Great General Staff was organized in a new building in the Tiergarten, 2,000 yards from the Ministry of War, in 1871. It was then a permanent office, and it has been held by the same person since 1871. The position of the Chief of the General Staff is that of a permanent office, and it has been held by the same person since 1871.

It is a permanent office, and it has been held by the same person since 1871. The position of the Chief of the General Staff is that of a permanent office, and it has been held by the same person since 1871.

Manoeuvres, and the capabilities of all officers engaged in them, and organizes and directs the Imperial Manoeuvres. He is also in charge of the training of the various branches of the army, and of the various branches of the army.

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He is also in charge of the training of the various branches of the army, and of the various branches of the army.

* A new photograph is in the process of being prepared.

Most of the officers employed as instructors at the State Colleges are members of the Great General Staff, and have professional as well as educational duties.

* For details of the case, see page 214, "Military Research on the German Front, 1911."

*Distributions of the Officers of the U. S. General Staff (1904).*⁴⁴

[illegible]

* See * note * page 87

+ Attached to extra. Section

* The adjutants' duties are performed by assistants, but the adjutants

There are no instructors at the Staff College.

Inc. of Eng. L. & S. (1900) London

• L. H. R. Officer.

It does not agree with the Prussian Army List of the estimates. No more recent data are available.

Distribution of the Officers of the Great General Staff

[illegible]

† The survey is now under Chief Quartermaster J., who has a general office.

† Chiefs of sections are, as a rule, ex-officio but a few are promoted to the rank of major-general during their tenure of office.

1. The senior staff officer of captain class has been added

Unform. For the definition of σ , see Sect. 8
page 3]

C.—The "Adjutantur" or Routine Staff.

Duties.—The *Adjutantur* or *Roature* Staff in peace deals with

Daily orders, garrison orders, interior economy, daily and periodical reports, *personal*, personal affairs of officers and men, courts of law, orders against desertion, deserting reserves, *Landwehr* and *Landsturm*, leave, discharge from prison, discharges, pensions, decorations and rewards, etc.

The officers of the *Adjutantur* are selected from regt

mental officers, but most of them are Staff College graduates who have not been selected for the General Staff.

Uniform. For the uniform of officers of the *Adjutantur*, see page 2.

The Army-Corps Commanders and their Staffs

Functions of the Army-Corps Commander.—The German Empire is divided into 24 Army-Corps districts, of which Prussia has 18.* Each of them is commanded by a general, who is given a remarkable independence, and is responsible to the Emperor alone, with whom he communicates through the Military Cabinet.

The Army-Corps Commander administers through his staff the whole of the services of the Army-Corps within his command, from recruiting to pensioning, and including even the audit of accounts. He submits his own estimates, and is responsible for the proper expenditure of the money allotted to him.

He can authorize expenditure on a building up to 1,500*l.*, so that in the matter of repairs and minor buildings he can practically do as he thinks fit, and has only to obtain authority for expenditure on large buildings.

In the matter of stores he has practically a free hand, indenting for what he wants.

He is responsible to the Emperor for the discipline, efficiency and preparedness for war of all the troops in his command.

The Army-Corps Commander furnishes to the Military Cabinet special reports on the qualifications of all his commanding and staff officers, and forwards, with any comment he may think necessary, the reports on junior officers. He has large powers of military jurisdiction.

He may take any measures he may think necessary for the maintenance of civil law and order in his district.

He corresponds with the Railway Section of the Great General Staff regarding plans for mobilization, for the constant completeness of which he is responsible, and in communication with the highest civil authorities of his province regarding the supply of recruits.

The Army-Corps Commander must be not only a highly gifted soldier, but an administrator of great capacity, and with a large knowledge of civil and political life.

* The Guard Corps is not territorial.

Staff of an Army-Corps in peace. The Staff of an Army-Corps is divided into 4 sections as follows, under a Chief of the General Staff.

Section I. General Staff. It comprises two or three General Staff officers, and is divided into—

Section I. a.—Maps, quarters, training and discipline.
Section I. b.—Mobilization, regulations and training manuals, and the like.

Section II. Adjutantur Staff. It comprises two or three Adjutantur officers and a retired field officer, and is divided into—

Section II. a.—Personnel.
Section II. b.—Interior economy, recruiting, discharges, arms and munitions, etc.
Section II. c.—(Retired officers) Reserve, Landwehr and Landwehr militia.

Section III. Deputy Judge Advocate-General.

Section IV. Administration.

Section IV. a.—Finance, property, etc.
Section IV. b.—Supply, (c) Clothing and equipment, (d) Post and communication, and (e) Administration of the Hospital.

Section IV. c.—Corps Medical Service (see page 80).

Section IV. d.—Erga Subalterns.

Section IV. e.—Corps Veterinary Office (see page 80).

The Intendance, being under the Minister of War, is subject to orders from the Chief of the Army-Corps general staff, or even to the Corps Intendant in any matter, reporting his action to the Emperor. The Corps Intendant may appeal against any decision of the general, after he has consulted the Minister of War, who may either refer the matter to the Emperor.

The Chief of the General Staff is responsible for all the official work of the Army-Corps staff. He divides the first part of his duties into two main branches: he generalizes and coordinates the administrative and financial matters without further reference. In the absence of the general officer commanding, his powers pass to the senior division commander, but the Chief of the General Staff is authorized to deal with all administrative matters, and to exercise powers of review and control in all administrative cases.

Trommer.—Black (light blue in Bavaria) with two broad sash
blue and a narrow one in between.

Buttons.—Black raised leather ornament, with brass fittings and
a war-eagle's feather pipe in full dress. For Bavaria a similar
war-eagle on blue metal.

Collar.—White leather on all occasions except in the field, when
it is of dark leather.

The Ministry and General Staff Officers.

The Ministry and General Staff Officers may be distinguished by
having the double stripe down the trousers decorated with
gold, however, being carbine. The coat is of dark
brown with two stripes of gold on both. The waistcoat is of
blue and the General Staff's liver laced. The *Lieutenants* have carbine
laced patterns.

Aide-de-Camp to the Emperor

Aide-de-Camp to the Emperor (*Adjutant-General*) wears a green
tunic, with two broad stripes of gold on the trousers and a
scarlet collar patch.

Adjutant-General to the Emperor

Adjutant-General to the Emperor wears regimental uniform with the
sash, but the shoulder as opposed to the regimental officers' sash is
red and black.

Adjutant-General to the Emperor

Uniform of the Adjutant-General

The uniform of the Adjutant-General is described on page 111,
and he is distinguished by having two broad patches with
sash and in the field. The coat is of dark brown with
two stripes of gold on both. The waistcoat is of blue
and the General Staff's liver laced. The *Lieutenants* have
carbine laced patterns. The *Lieutenants* have carbine
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and the General Staff's liver laced. The *Lieutenants* have
carbine laced patterns. The *Lieutenants* have carbine laced patterns.

Aide-de-Camp to the Emperor

Cuffs and collar patches similar to those on the tunic of a General
Officer, but the sash is different and on the collar patches and the
shoulder cords and metal fittings as in the dark blue uniform.

Adjutant-General to the Emperor

Adjutant-General to the Emperor wears regimental uniform with the
sash, but the shoulder as opposed to the regimental officers' sash is
red and black.

The Inspectors (Army and Technical).

Army Inspectors.—For the purposes of inspection,* the
German Army, excluding the Guard, is divided into eight
groups, each under an "Army Inspector." These officers,
who, it is believed, will command the various armies in time
of war, inspect each Army-Corps of their group in turn
usually every 2 years, and report to the Emperor.

1 Army Inspector. Prussia, Ist, XVth and XXth Army

2 Army Inspector. Prussia, Guard, XIIIth, Royal Saxon and

3 Army Inspector. Prussia, VIIth, VIIIth and IXth Army

4 Army Inspector. Prussia, IIth, IIIrd, IVth, and VIIth Army

5 Army Inspector. Prussia, VIth, VIIth, VIIIth and IXth Army

6 Army Inspector. Prussia, Xth, XIth and XIIth Army

7 Army Inspector. Prussia, XIVth, XVth and XVIth Army

8 Army Inspector. Prussia, XVIIth, XVIIIth and XIXth Army

9 Army Inspector. Prussia, XXth, XXIth and XXIIth Army

10 Army Inspector. Prussia, XXIIIrd, XXIVth and XXVth Army

11 Army Inspector. Prussia, XXVIth, XXVIIth and XXVIIIth Army

12 Army Inspector. Prussia, XXIXth, XXXth and XXXIst Army

Technical Inspectors.—In order to ensure uniformity of
equipment &c. in the different arms of the service which
are divided among the Army-Corps, there are, as already
stated, various Inspectors General, and Inspectors who act as
the technical heads of each branch. They are, as a rule,
appointed by the Emperor, and report to the Emperor by
the Army-Corps Commanders and the Ministry of War.
by reports as they may consider necessary. They have

* There are in addition to these army inspectors 20 *Landwehr*

Under the Minister of War for administration, but without communication with the Emperor on questions of

The Master of the Ordnance (*Feldzeugmeister*) (chief of the manufacturing departments and Ordnance

1. The supreme Imperial Military Court, to which the Emperor has delegated his powers, is the highest Court of Appeal.

6 2331 RTF ES

The following committees study the questions which their members have submitted:

The Cavalry Committee.
The Small Arms Committee.
The Ordnance Committee.
The Engineer Committee.

The Cavalry Committee. The Cavalry Committee serves to note, examine and report on special cavalry questions and novelties. It reports to the Minister of War. Its members have other duties.

an Inspector

The Commander of the 1st Cavalry Division
Commander of a Cavalry Artillery Brigade.
Adjutant of the General Staff
Two officers in the 1st Cavalry Division.

The Small-Arms Committee. This Committee has the task of investigating and reporting on new inventions and proposals affecting small-arms.

[illegible]

Permanent members (with no other duties)

- 1 general, presid.
- 1 adjutan.
- 2 chiefs of sections
- 7 members
- 1 paymaster

Extra members (with other duties)

- 7 officers
- 8 assistant officers
- 6 attached officers

The Ordnance Committee.—The Ordnance Committee has the same duties as regards guns as the Small Arms Committee has towards the infantry weapons. It has two sections, Field and Foot Artillery.

Permanent members (with no other duties)

- 1 general, presid.
- 1 adjutan.
- 2 chiefs of sections
- 7 members
- 1 paymaster

Extra members (with other duties)

- 3 officers
- 8 assistant officers
- 10 attached officers
- 10 officers of the Department of the Master of the Ordnance

There is also a section of the Ordnance Committee at the Ordnance Department.

The Engineer Committee. The Engineer Committee, immediately under the Inspector General of Engineers, Pioneers, and Fortresses, is a permanent body whose main duties are the study of developments in military engineering, electro-technics and all the branches of military engineering together with the design of practical experiments in these subjects assisting in the preparation of manuals for the engineers and pioneers, the design of technical equipment for these branches of the service.

It consists of 4 sections, viz., pioneer, fortress, electro-technical and engineer.

MILITARY SYSTEMS OF WÜRTTEMBERG, SAXONY AND BAVARIA.

The details of the corresponding military systems of Württemberg, Saxony and Bavaria is similar to that of the Prussian system, but on a smaller scale.

The Kings of Bavaria, Saxony and Württemberg have separate War Ministries which are organized very similarly to that of Prussia and conform to most of its acts. Their orders are conveyed to their own armies through their own Ministers of War, who are represented in the *Reichstag* by military plenipotentiaries. The staff officers of Saxony and Württemberg are trained in Berlin, but Bavaria has a separate General Staff establishment. Württemberg officers are frequently found serving with Prussian troops and vice versa, but Bavarian and Saxon officers never serve out of their own army. Officers of the latter also serve with their units in Alsace Lorraine in the XVth Army Corps, the staff officers of both Kingdoms serving at headquarters in Berlin and officers serving with certain units and detachments of the Prussian army.

and war footing in Prussia* will be seen from the following tables -

PEACE ESTABLISHMENTS OF INFANTRY REGIMENTAL STAFFS.†

Rank	Number
Colonels	1
Lieutenant colonels and majors	4
Lieutenants and 2nd lieutenants	1
Major office	1
Paymasters	1
Band	1
Non-commissioned officers	1
Regimental staff	1
Total	1

PEACE ESTABLISHMENTS OF INFANTRY BATTAL STAFF

	Higher establishment	Lower establishment
Major	1	1
Captain	1	1
Adjutant	1	1
Lieutenants and 2nd lieutenants	1	1
Paymaster and 2nd paymaster	1	1
Artillery	1	1
Non-commissioned officers	1	1
Drum-majors	1	1
Lance-corporals, privates and buglers	60	50
Medical staff	1	1
Total all ranks	741	563

The figures of the Bavarian, Württemberg and Saxon units do not vary to any great extent from the above.

* Certain Guard and Line regiments differ slightly from the above.

† One of these is the "Stabskommando" which is chiefly responsible for the training of the regimental staff.

The peace establishment (1st October, 1913) of the infantry, excluding rifles (*Jäger*), is

15,362 officers.
1,318 medical officers.
1,545 paymasters and assistant paymasters.
926 bandmasters.
603 artificers.
50,980 non-commissioned officers.
114,476 rank and file.

Schools of Musketry - The Prussian school is situated at Windsor. It is commanded by a colonel, as commandant, who has a lieutenant-colonel as his assistant and a lieutenant as adjutant. The staff consists of 4 captains as members, 10 lieutenants as assistants, a paymaster and a medical officer. An instructional machine-gun company is permanently at the school.

The Bavarian school is at Augsburg and has a staff of a lieutenant-colonel as commandant, 3 captains as members and a lieutenant assistant.

The objects of these schools (*Infanterie-Schiess-Schulen*) are the training of musketry instructors and expert shots, and the dissemination of a thorough knowledge of the service small arms and of the Regulations as to them and their ammunition. The schools are also required to point out any defects in the Musketry Regulations, to submit suggestions for their improvement, and to follow the development of musketry questions in foreign countries.

For details as to the courses held, see page 199, "Military Resources of the German Empire, 1911."

WAR ORGANIZATION.

General. - Infantry units on mobilization are brought up to the war strengths shown in the table on page 102, in which the peace establishments have been included for purposes of comparison. The peace distribution of units to Army-Corps remains unaltered.

PEACE AND WAR ESTABLISHMENTS OF INFANTRY UNITS.

Title	Peace			War (approximate)		
	Officers	Medical officers and officials	Other ranks	Medical officers and officials	Other ranks	Vehicles
Company	1		179	1	200*	4
Platoon	4		100			
Battalion	19	3	719	22	1,680	19
Platoon	19	3	341			
Regiment of 3 Battalions	63	9	9,908	70	9,204	59
Platoon	63	9	1,574			
Lower						
Regiment of 3 Battalions	138	24	4,416	148	24	400
Platoon	138	24	8,568			
Lower						
Staff of a Regiment	6	7	6	4†	5‡	1

* The company is organized in 4 or 5 platoons (Züge), each of which is subdivided into 4 or 5 sections (Platoon), consisting of a varying number of groups (Gruppen) of 4 or 5 men each.

† Includes 1 machine-gun company or companies.

‡ Including 1 transport officer.

Transport.—The transport of a regiment of 3 battalions at war strength, exclusive of the machine-gun company of those regiments possessing one, consists of 16 led horses, 58 two-horsed vehicles and 1 four-horsed vehicle, and is organized thus

Transport of a Regiment.

1st Line Transport (Gefechts-bagage)

- 16 led horses (1 per company and 4 for regimental staff).
- 12 small-arm ammunition wagons (1 per company).
- 12 field kitchens (1 per company).
- 3 infantry medical store wagons (1 per battalion).

2nd Line Transport (Grosse Bagage)

- 16 baggage wagons (1 per company, 8 for battalion staff and 8 for regimental staff).
- 2 supply wagons (1 per company).
- 2 sutlers' wagons (1 per battalion).
- 1 tool wagon (four-wheeled).

All infantry transport wagons are four-wheeled, drawn by two horses (except the tool wagon) and painted grey. They are driven from the box and, with the exception of the small-arm ammunition wagons and field kitchens, are made up of a body only, with a fore-carriage which locks under. The small-arm ammunition wagon is composed of two boxes, rigidly connected by futchells, and carries 14,400 rounds, or about 70 per rifle.

Transport of a Battalion

(Without machine-gun company)

1st Line Transport (Gefechts-bagage)

- 4 led horses
- 4 company small-arm ammunition wagons
- 4 field kitchens
- 1 infantry medical store wagon

2nd Line Transport (Grosse Bagage)

- 1 baggage wagon for battalion headquarters
- 3 company baggage wagons
- 3 supply wagons (including 1 sutlers' wagon)

side are carried the sword bayonet and entrenching tool. The tools (spade, pick or hatchet), the metal portions of which are soldered in leather cases, are hung (by means of a leather loop on the cases) from the belt, handle downwards, immediately behind the bayonet. Each man also carries a portion of a tent, consisting of a square of canvas a pole in the middle and a handle at each end. The handles are used to carry the equipment.

The whole equipment, put together, is a heavy one. The total weight, including arms, carried in full service order by an infantry soldier of medium height is about 80 lbs.*

Field glasses are issued in the proportion of five per company.

Tools.—The entrenching and other tools carried in the field are shown in Appendix XI.

Uniform.—A field service uniform of a grey colour (grey green in the case of the rifles) was introduced into the German Army in February, 1910, in addition to the existing uniforms.

Rules for the wearing of field service uniform.

The rules with regard to the wearing of the two kinds of uniform are as follows—

The old uniforms, called now in every case "dark blue" (*dunkelblaue Uniform*), are to be worn—

- (1.) On parade.
- (2.) On guard duty.
- (3.) At Divine service.
- (4.) At courts martial, &c.
- (5.) As walking out and society dress.

The new field service uniform (*feldgrüne*, or in the case of the rifles *graugrün*, *Uniform*) is to be worn—

- (a.) In the field.
- (b.) At all field exercises, &c., except against a marked enemy.

Guard and Line Regiments.

(1.) *Dark Blue Uniform* (see Plates 6, 13 and 14.)

There is practically only one dress, the single-breasted tunic, but a loose tunic (*latzke*) is provided for fatigues and drills within the unit. Officers must wear the latter garment when on duty and when it is worn by the men, and may do so in barracks and billets. For men and walking out officers wear a frock of the same colour as the tunic.

Tunic.—For Prussian, Saxon, Württemberg and Hessian troops the

* The total weight carried is 54½ lbs. (see *Einjährig-Freiwilliger*, 1913 page 2, 312).

and cuffs of smock. The 08th Sax. Schützen-Regiment has blue accipiter (14).

The 08th Sax. Schützen-Regiment has blue accipiter (14).

The 08th Sax. Schützen-Regiment has blue accipiter (14).

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Rate	Infantry	Machine Gun	Artillery	Total
Lower expeditionary troops	561	30	19	7-3
Regimental tradesmen	7		7	7
Medical organizations	4		1	5
		5	10	884
Horses				
+ Recruits				
+ Officers				

The peace establishment (1st October, 1913) of the rifles

- 548 officers
- 36 medical officers
- 30 paymasters and assistant paymasters
- 18 bandmasters
- 18 bandmen

1,943 in the peace establishment

13,175 in the war establishment

War establishments. The war establishments of companies and battalions are almost the same as those of the infantry (see page 102).

Armament and equipment. The armament and equipment of the rifle companies and battalions are almost the same as those of the infantry (see page 102).

Uniform. The uniform of the rifle companies and battalions is almost the same as that of the infantry (see page 102).

"Jäger" and "Schützen" Battalions

1. *Dark Blue Uniform (see page 102)*

Tunic. All Jäger and Schützen wear a dark blue tunic with a black collar and cuffs. The buttons on the tunic are black. The Jäger and Schützen wear a black cap with a black band. The Jäger have black collar and cuffs. The Schützen have black collar and cuffs. The Saxons Jäger have black collar and cuffs. The 14th Jäger have black collar and cuffs. The Bavarian Jäger have black collar and cuffs.

The Guard Jäger wear a black tunic with a black collar and cuffs. The Guard Schützen wear a black tunic with a black collar and cuffs.

The Jäger and Schützen wear a black cap with a black band. The Jäger have black collar and cuffs. The Schützen have black collar and cuffs. The Saxons Jäger have black collar and cuffs. The 14th Jäger have black collar and cuffs. The Bavarian Jäger have black collar and cuffs.

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CHAPTER V

MACHINE GUNS

MACHINE-GUN UNITS

Major General John H. Mears, Jr., is in charge of the machine-gun units. They are all under the Inspector of Machine-gun Units at Berlin.

Machine-Gun Battery

Organization.—Machine-gun batteries are independent units under Army-Corps or cavalry division commanders, but attached in peace to infantry regiments, usually to *Rifger* battalions, for discipline. In war they will probably be exclusively used with the cavalry divisions.

There are 11 batteries, v.z.

- 2 Prussian,
1 Saxon,
1 Bavarian.

corresponding probably to the number of cavalry divisions that will be mobilized in war.

The peace and war strengths of a machine-gun battery are as follows:

[illegible][illegible]

A battery consists of six guns, mounted on 6 wagons, each drawn by 4 horses, with 2 drivers to each wagon. It is organized in 3 sections. All drivers and horses are fed by the main kitchen. A messenger and non-commissioned officers are mounted. The gun numbers are carried on the wagons, two at a time, and two drivers.

The personnel consists of picked men of more than average physical ability, selected from military men for a few months' training.

A number of men surplus to ordinary requirements are trained in peace who could replace casualties in war

Transport.—The transport of a machine-gun battery at war

- [illegible]

Armament The first seven are armed with a revolver
the 10 automatic pistol, with 24 rounds ammunition on board each auto-
motive rifle carries a 15-round magazine and is armed with a sword, the
company commander's sword is a blade and sword bayonet.

Machine-gun - The gun is mounted upon a tripod stand, which is itself mounted on the air age. The gun can either be fired from the carriage after unmounting, or can be removed with its saddle and fired from the ground; the latter being the normal procedure. The weight of the gun when firing from the saddle can be adjusted by altering the position of the gun.

The rear portion of the stange is provided with two short shafts or handles, which are fixed. There are also two movable handles at the front portion, connected by a cross piece. These front handles are about the point at which they are fixed, and by turning them the front portion of the stange is raised or lowered.

The ammunition is carried in wedges (6 per wedge) which can be dismantled from the

Maximum velocity	3,800 ft. per second
Extreme range at 45 degrees elevation	2,400 yards
Rate of fire	400 to 500 rounds per minute

Penetration into earth or sand, at 110 yards	86 inches
Penetration into earth or sand, at 875 yards	13-8 inches
Penetration into dry timber (dead), at 110 yards	9-8 inches
Penetration into dry timber (dead), at 875 yards	8-8 inches
Number of rounds in a belt	50
Weight of a belt	74 pounds
Weight of the gun	317 pounds
Weight of barrel	94 pounds
Weight of carriage	77 pounds
Weight of tripod	11 pounds
Weight of complete gun and tripod	176 pounds
Weight of complete gun	85 pounds

Service ammunition.—Fixed rounds of the ammunition (see page 117) are 87,500 rounds per battery, viz.:—
0,500 per gun on the timbered gun wagon.
4,050 per gun on the 8 ammunition wagons.

The ammunition is in boxes of 25 each, with 6 boxes of 50 per battery. The boxes are marked with the number of the gun to which they belong.

Practice ammunition.—An equal allowance of 110,000 rounds of blank ammunition is provided for each battery. The ammunition is in boxes of 25 each, with 6 boxes of 50 per battery.

Missile attachment for blank ammunition.—Each gun has a missile attachment for use with blank ammunition, with the result that the gun can be fired as a blank ammunition gun.

Uniform.—For rules as to the wearing of it see "dark blue" and "dark blue" uniform (see Plates 6 and 13).

Tunic.—A grey-green cloth tunic with stand-up collar. The collar is black. The tunic has a black collar. The tunic of the battery appears on the shoulder straps.

Lifebelt.—A grey, with collar patches of dark green. No. 1 of the Machine-Gun Battery has a scarlet piping, and No. 2 has green piping.

Trousers.—A grey, with collar patches of dark green. No. 1 of the Machine-Gun Battery has a scarlet piping, and No. 2 has green piping.

Cap.—A grey, with collar patches of dark green. No. 1 of the Machine-Gun Battery has a scarlet piping, and No. 2 has green piping.

Coat.—A grey, with scarlet shoulder straps and collar patches.

Coat.—A grey, with scarlet shoulder straps and collar patches.

Coat.—A grey, with scarlet shoulder straps and collar patches.

Coat.—A grey, with scarlet shoulder straps and collar patches.

Coat.—A grey, with scarlet shoulder straps and collar patches.

Tunic.—Of grey-green cloth, with scarlet piping on front and skirt and round collar cuffs (Swedish), and shoulder straps on which is the battery number.

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Tunic.—Of grey-green cloth, with scarlet piping on front and skirt and round collar cuffs (Swedish), and shoulder straps on which is the battery number.

The company consists of guns, rifles and shotguns, and carries a large stock of ammunition. It also has a large stock of traps and traps, and a large stock of traps and traps. The company also has a large stock of traps and traps, and a large stock of traps and traps.

[illegible][illegible][illegible]

Armament

[illegible]

Machine exp

movements. It is lighter, weighing with sledge and water to be drawn by 2 instead of 4 horses.

EXCLUSIVE of 4 (MAY) & 13/28/88.

§ Exclusive of the 5 gun wagons.

Page 1 of 1

[illegible]

8,000 per gun on the timbered gun widge.

4. All other persons who are not members of the family shall be charged 10¢ per person for admission to the museum. The fee for the children of members shall be 5¢.

Uniform. Officers and men wear the uniform (see page 108) to which they belong. The men wear a light blue accor-

Fortress Machine-Gun Detachment. This detachment reports to the commander of the division, and is attached to each infantry regiment and consists of one light company of such regiments.

The peace establishment is —

附. 考證

16 non-commercial objects

On June 11, 2013, the respondent was interviewed by the author.

1 medical non-commissioned officer

28 horses (including 6 officers' charges).

Tactics of Machine-Gun Units.

General G. M.

 1906 to 1913, in the number of these weapons allotted to her field armies, and in the attention paid to the training of the

Machine-gun batteries are used either for special operations such as with the advanced guard for seizing and holding advantageous positions and for special positions to be used in war, with aviation units both as a means of fire leading down to the ground and in the air but for supporting the attack.

M 44 is a gas-combustion engine said to be directly used for the direct support of infantry in the fire combat.

As regards the method of attack, gulls use the principle employed by us while exercising in short rushes by small groups.

Machine guns are not intended to replace artillery. Their effective range is 2,200 yards, and it is realized in Germany that about 1,600 yards is the limit of useful machine-gun action.

No hard and fast rules are laid down as to massing or dispersing the guns of a battery or company; but though guns are often used in pairs, it is rare to hear of a gun being used singly. The tendency is to keep the 8 guns massed.

Fire control. The system of fire control is very much the same as that which obtains at the Hythe School of Musketry. The target, ranges and nature of fire are given out by the controlling officer, and repeated by the non-commissioned officers. Hand signals or the voice are used for opening and ceasing fire, the non-commissioned officer, or No. 1, tapping the fire on the shoulder, as we do, to stop him firing.

Ranging fire, travelling fire, continuous and vertical searching fire, will all be employed according to the target. If the nature of fire is possible, the range is indicated and verified by ranging fire; if not, combined sights, differing by 50 yards, are used.

No attempt is made to control the fire of brigaded guns from a central position.

CHAPTER VI.

CAVALRY

PEACE ORGANIZATION.

Organization. On the 1st October, 1913, the German Cavalry consisted of 110 regiments, each of 5 squadrons, except 3 Bavarian regiments which have only 4* squadrons each, making 547 squadrons in all.

The arm is organized in brigades in peace, the Guard Cavalry being, however, organized as a division of 4 brigades. There are 25 brigades in all.

The regiments are grouped together, 3 regiments to a brigade, irrespective of the fact as to whether they are heavy, medium, or light cavalry; brigades bear the numbers of the (infantry) divisions to which they are attached†.

Normally 2 cavalry brigades are allotted to each Army-Corps, the exceptions being the Guard Corps with 4 brigades, and the 1st, IVth and XVIth Army-Corps with 3 brigades each.

The manner in which the cavalry is classed and the regiments belonging to the different States are shown in the following table:—

* The 3 Bavarian regiments are formed as follows:—
† Except the 1st, 4th, 11th, 12th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 145th, 146th, 147th, 148th, 149th, 150th, 151st, 152nd, 153rd, 154th, 155th, 156th, 157th, 158th, 159th, 160th, 161st, 162nd, 163rd, 164th, 165th, 166th, 167th, 168th, 169th, 170th, 171st, 172nd, 173rd, 174th, 175th, 176th, 177th, 178th, 179th, 180th, 181st, 182nd, 183rd, 184th, 185th, 186th, 187th, 188th, 189th, 190th, 191st, 192nd, 193rd, 194th, 195th, 196th, 197th, 198th, 199th, 200th, 201st, 202nd, 203rd, 204th, 205th, 206th, 207th, 208th, 209th, 210th, 211th, 212th, 213th, 214th, 215th, 216th, 217th, 218th, 219th, 220th, 221st, 222nd, 223rd, 224th, 225th, 226th, 227th, 228th, 229th, 230th, 231st, 232nd, 233rd, 234th, 235th, 236th, 237th, 238th, 239th, 240th, 241st, 242nd, 243rd, 244th, 245th, 246th, 247th, 248th, 249th, 250th, 251st, 252nd, 253rd, 254th, 255th, 256th, 257th, 258th, 259th, 260th, 261st, 262nd, 263rd, 264th, 265th, 266th, 267th, 268th, 269th, 270th, 271st, 272nd, 273rd, 274th, 275th, 276th, 277th, 278th, 279th, 280th, 281st, 282nd, 283rd, 284th, 285th, 286th, 287th, 288th, 289th, 290th, 291st, 292nd, 293rd, 294th, 295th, 296th, 297th, 298th, 299th, 300th, 301st, 302nd, 303rd, 304th, 305th, 306th, 307th, 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1770th, 1771st, 1772nd, 1773rd, 1774th, 1775th,

[illegible]

The squadron is organized in 4 troops (*Züge*), each of 3 or more companies, each of 4 files.

* Originally organized as squadrons of "Mounted Orderly."

Inspector-General of Cavalry. The whole of the Prussian Cavalry is under the Inspector-General of Cavalry, who is assisted by four inspectors of cavalry, the cavalry regiments being divided into four "inspections," numbered 1 to 4, with headquarters in Posen, Stettin, Strassburg, and Saarbrücken respectively.

The Bavarian Cavalry is under the Bavarian Inspector of Cavalry.

Establishments.—There is now only one peace establishment for all cavalry regiments, this is shown, together with the corresponding war strength, in the following tables:—

PEACE ESTABLISHMENT OF A CAVALRY REGIMENT *

Gr. m.	1
F	1
A	1
I	1
V	1
V	1
P	1
I	1
V	1
T	1
M	1
Medical	1
Insurance	1
T	1

1. The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation

PEACE AND WAR ESTABLISHMENTS OF CAVALRY UNITS.

Unit	Peace				War (4 years average)			
	Officers	Non-Commissioned Officers	Privates	Horses	Officers	Non-Commissioned Officers	Privates	Horses
1st Cavalry Division	10	10	10	10	10	10	10	10
2nd Cavalry Division	10	10	10	10	10	10	10	10
3rd Cavalry Division	10	10	10	10	10	10	10	10
4th Cavalry Division	10	10	10	10	10	10	10	10
5th Cavalry Division	10	10	10	10	10	10	10	10
6th Cavalry Division	10	10	10	10	10	10	10	10
7th Cavalry Division	10	10	10	10	10	10	10	10
8th Cavalry Division	10	10	10	10	10	10	10	10
9th Cavalry Division	10	10	10	10	10	10	10	10
10th Cavalry Division	10	10	10	10	10	10	10	10

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The total peace establishment (1st October, 1913) of the cavalry is:

28,700—horses.
 2,000—officers.
 35,000—non-commissioned officers.
 22,800—paymasters and assistant paymasters.
 110—bandmasters.
 2,000—privates.
 1,000—stables, and 10 officers.
 30,480—rank and file.
 80—horses.

Schools of military equitation.—There are two of these schools (*Officer-Ritt Institute*), one Prussian and one Bavarian.

The Prussian school is situated at Hanover, and its principal object is to train officers and non-commissioned officers to be accomplished and bold horsemen, and expert equestrian instructors.

The Bavarian School of Equitation (*Equitationsschule*) is at Munich.

The Prussian school is under a lieutenant-general of cavalry, who has under him 2 field officers as commandants of each of the two sections into which the school is divided, namely, the officers' riding school (*Officer-Reitsschule*) and the non-commissioned officers' riding school (*Knecht-Reitsschule*).

There are 14 captain instructors for the officers, and they may remain at the school until they are promoted. The instructors for the non-commissioned officers are found from the officer pupils of the second year.

For details as to the courses held, see page 301, "Military Resources of the German Empire, 1911."

Respective reorganization.—The School of Military Equitation, as it existed, was proved inadequate for the training of all the Prussian officers' riding schools (*Officer-Reitsschulen*) in different parts of the Empire. One was established at Paderborn in 1906, and soon the others have been formed. It is stated that the cavalry non-commissioned officers' riding school (*Knecht-Reitsschule*) at Hanover will be merged with the officers' riding school (*Officer-Reitsschule*) at Hanover and be renamed the *Officer-Reitsschule*.

For details as to the courses held, see page 203, "Military Resources of the German Empire, 1911."

Officers' riding schools.—Three of these schools are at present, the Prussian at Potsdam, the Prussian at Soltau, and the Bavarian at Dillingen.

It is intended to establish a Prussian one at Stuttgart and a Bavarian one at Munich.

These schools are intended to give instruction in the school at Hanover, there especially in respect to the instruction of young officers.

The Prussian school is under a major as instructor, with three captains as instructors. The school is directly under the command of the School of Military Education at Hanover.

For details as to the courses held, see page 203, "Military Resources of the German Empire, 1911."

Cavalry telegraph schools.—There are two of these schools (*Kavallerie Telegraphenschulen*), one Prussian and one Bavarian, and they are intended for the training of officers in the duties connected with the cavalry telegraph equipment.

The Prussian school is situated in Berlin. It is under the command of the officer commanding No. 1 Telegraph Battalion, to which it is affiliated. The staff consists of a captain of cavalry as principal and eight lieutenants as instructors.

The Bavarian school, situated at Munich, is similar to the Prussian Cavalry Telegraph School. It is affiliated to the Bavarian Telegraph Company, the commander of which is the principal of the school. There is only one instructor, a lieutenant.

For details as to the courses held, see page 211, "Military Resources of the German Empire, 1911."

WAR ORGANIZATION

General.—On mobilization, the cavalry will be organized as cavalry divisions and divisional cavalry. The cavalry divisions, of which 11 will probably be mobilized, will consist of three cavalry brigades each of two regiments, each of

four squadrons, and a field squadron. The field squadron in each regiment remains behind as a depot squadron, and the remainder of the regiment is mobilized. The mobilization is ordered, and all squadrons are mobilized.

The mobilization is ordered, and all squadrons are mobilized. The mobilization is ordered, and all squadrons are mobilized. The mobilization is ordered, and all squadrons are mobilized.

The mobilization is ordered, and all squadrons are mobilized. The mobilization is ordered, and all squadrons are mobilized. The mobilization is ordered, and all squadrons are mobilized.

War establishments. The mobilization is ordered, and all squadrons are mobilized. The mobilization is ordered, and all squadrons are mobilized. The mobilization is ordered, and all squadrons are mobilized.

Transport. The mobilization is ordered, and all squadrons are mobilized. The mobilization is ordered, and all squadrons are mobilized. The mobilization is ordered, and all squadrons are mobilized.

Armament. The mobilization is ordered, and all squadrons are mobilized. The mobilization is ordered, and all squadrons are mobilized. The mobilization is ordered, and all squadrons are mobilized.

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revolver, sergeant and under-officers with a revolver, carbine, revolver, and private with a sword and carbine, and officials, barriers, hospital assistants, officers groom, veterinary

The 60 pattern sword, which is used by all cavalry other than those with the *Plataca*, has a blade 36 inches long. The total length of the sword is 44½ inches, and the weight is 2 lb. 5½ oz. The hilt is 1 lb. 8 oz. The hilt is made of steel and has a four-edged point of piece with the shaft, which is of cast steel.

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Cavalry telegraph patrol. Each cavalry regiment has a cavalry telegraph patrol (*Kavallerie Telegraphen patrouille*), consisting of 1 officer, 4 non-commissioned officers and 6 men, and divided into two groups. Each group is equipped with 1 telephone, 4 "separators," and cable for crossing streams. A patrol can build 7,500 yards of line in about 70 minutes (average). The patrol is used mainly for providing communication between headquarters and advanced detachments, or with the nearest field telegraph stations, and also for tapping and destroying hostile telegraph lines.

Cavalry regimental telegraph equipment. This consists of the equipment of the patrols referred to in the last paragraph and telegraph stores for special purposes and 2 telephone, 2 "separators," and cable for crossing streams. It is all carried on the telegraph wagon.

Signalling. See pages 137 and 255.

Tools and explosives. The tools and explosives carried with cavalry are shown in Appendices X and XI.

Cavalry bridging equipment. A cavalry regiment is equipped with the following bridging material:

4 "separators" for crossing streams, 1 "separator" for crossing streams, 1 "separator" for crossing streams, 1 "separator" for crossing streams.

1 "separator" for crossing streams, 1 "separator" for crossing streams, 1 "separator" for crossing streams, 1 "separator" for crossing streams.

1 "separator" for crossing streams, 1 "separator" for crossing streams, 1 "separator" for crossing streams, 1 "separator" for crossing streams.

1 "separator" for crossing streams, 1 "separator" for crossing streams, 1 "separator" for crossing streams, 1 "separator" for crossing streams.

1 "separator" for crossing streams, 1 "separator" for crossing streams, 1 "separator" for crossing streams, 1 "separator" for crossing streams.

1 "separator" for crossing streams, 1 "separator" for crossing streams, 1 "separator" for crossing streams, 1 "separator" for crossing streams.

1 "separator" for crossing streams, 1 "separator" for crossing streams, 1 "separator" for crossing streams, 1 "separator" for crossing streams.

Means of transport. The above equipment is carried in two six-horsed cavalry bridge wagons. When placed on the wagons the boats are put one on top of another bottom up, the upper boat resting on the wooden rail of the lower. On this rail are straps with hooks fastened to (1636)

the gunwales, which are fastened to the
wagons, and also fastened to the
boats when forming a train.

Method of forming a boat and its use.

for the superstructure clear of the gunwales of the boat.

of field art. lery

to laboratory conditions. The results of the laboratory tests are shown in Table 1. The results of the field tests are shown in Table 2. The results of the laboratory tests show that the shear strength of the soil is significantly reduced by the presence of the organic material. The results of the field tests show that the shear strength of the soil is significantly reduced by the presence of the organic material.

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A B G X P I A

e x v

P x

and carries two animals in
A mass is made of them
In case of the bear also I saw
I had the use in the
infants and as carried in the
A very equipped and much the
as the without the mail is about 100,000

Uniform. For rules as to the wearing of the park uniform, see page 108.

Cultrigiere (A. F. 1990)

Grey with white base

Head-dress: Metal helmet, with a k e n

white for all regiments, with band and pip
Light grey, with fringes like sw
The colours of the sword knot its girth diff.
so indicate of a regiment *See* page 17

1,2000. An of 1000.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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(1030) 4 3

Dragoons and Bavarian Heavy Cavalry (Schwere Reiter).

Female. The female is of light brown color except for Hairs on the N^o 23 and 24 which wear dark green. The color of the legs varies according to the regiment *Camp Fiske* etc. The number of the *Legs* is 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 84

[illegible]

Hussare u. T. 1. x.

Beets and cabbages. White eyes. Regiment No. 333. 1877.

$$P_{\text{eff}}(g) = \frac{1}{2} \left(\frac{1}{g} + \frac{1}{g^2} \right) \quad (5)$$

Lancora Ulanen) gir 18 8

Page 1 of 1

$$P_{\text{eff}} = \frac{1}{2} \left(\frac{1}{P_1} + \frac{1}{P_2} \right)$$

Bavarian Light Cavalry Chevauligers

64 regt. As for 1. Reiter
 Saxon Heavy Cavalry Schwere Reiter) see Plate 7.

Saxon Heavy Cavalry (Schwere Reiter) are Plate 7.

cap right side, 91.00 and pl left side, 91.00.

* A sample has been analyzed and the results are as follows:

[illegible]

* The σ -conjugation of this unit is having negative charge
 i.e. $\sigma = 1.16 \times 10^{-18}$

CHAPTER VII

ARTILLERY

A. FIELD (WHICH INCLUDES HORSE)
ARTILLERY

PEACE ORGANIZATION

Organization. On the 1st October 1913, the field artillery consisted of 631 batteries of field and horse artillery and 100 gunners together with nine batteries (three being howitzers) of the Field Artillery School of Gunnery, making a total of 642 batteries.

The arm is organized in a "*Brigade*," of which one is allotted to each division and carries the number of the division to which it belongs. The "*Brigade*" consists of two regiments, each of two *Abteilungen** of three batteries.

Abteilungen are numbered I and II and batteries 1-6 within the regiment.

Horse artillery *Abteilungen* of three 4-gun batteries each, given in number, destined for service with the 11 cavalry divisions which it is expected will be formed on mobilization, are attached to the first guard, 1st, 3rd, 5th, 8th, 10th, 11th, 13th, 15th, 35th and 5th Bavarian Regiments.

The second *Abteilungen* of a certain number of regiments

* The German "*brigade*" must not be confused with the French "*brigade*" which is known in Germany as a "*Abteilung*."

consist of light field howitzers, giving one or two field howitzer *Abteilungen* to every Army-Corps.

Inspector of Field Artillery.—The whole of the field artillery is under the Inspector of Field Artillery in so far as gunnery training is concerned. The duties of this inspector are to assist in the development of gunnery by the preparation of the necessary text books, and to supervise the arm as regards the proper use and fitting of these text books and compliance with the instructions contained therein.

Peace Establishments. Field artillery batteries are maintained in peace time in two establishments, and horse artillery batteries on one establishment. These establishments are shown in detail in the following table:—

PEACE ESTABLISHMENTS OF HORSE AND FIELD ARTILLERY BATTERIES

	FIELD ARTILLERY		
	1st	2nd	3rd
Chief of Battery	1	1	1
Subaltern	1	1	1
Second Lieut.	1	1	1
Third Lieut.	1	1	1
Fourth Lieut.	1	1	1
Fifth Lieut.	1	1	1
Sixth Lieut.	1	1	1
Seventh Lieut.	1	1	1
Eighth Lieut.	1	1	1
Ninth Lieut.	1	1	1
Tenth Lieut.	1	1	1
Eleventh Lieut.	1	1	1
Twelfth Lieut.	1	1	1
Thirteenth Lieut.	1	1	1
Fourteenth Lieut.	1	1	1
Fifteenth Lieut.	1	1	1
Sixteenth Lieut.	1	1	1
Seventeenth Lieut.	1	1	1
Eighteenth Lieut.	1	1	1
Nineteenth Lieut.	1	1	1
Twentieth Lieut.	1	1	1
Twenty-first Lieut.	1	1	1
Twenty-second Lieut.	1	1	1
Twenty-third Lieut.	1	1	1
Twenty-fourth Lieut.	1	1	1
Twenty-fifth Lieut.	1	1	1
Twenty-sixth Lieut.	1	1	1
Twenty-seventh Lieut.	1	1	1
Twenty-eighth Lieut.	1	1	1
Twenty-ninth Lieut.	1	1	1
Thirtieth Lieut.	1	1	1
Thirty-first Lieut.	1	1	1
Thirty-second Lieut.	1	1	1
Thirty-third Lieut.	1	1	1
Thirty-fourth Lieut.	1	1	1
Thirty-fifth Lieut.	1	1	1
Thirty-sixth Lieut.	1	1	1
Thirty-seventh Lieut.	1	1	1
Thirty-eighth Lieut.	1	1	1
Thirty-ninth Lieut.	1	1	1
Fortieth Lieut.	1	1	1
Forty-first Lieut.	1	1	1
Forty-second Lieut.	1	1	1
Forty-third Lieut.	1	1	1
Forty-fourth Lieut.	1	1	1
Forty-fifth Lieut.	1	1	1
Forty-sixth Lieut.	1	1	1
Forty-seventh Lieut.	1	1	1
Forty-eighth Lieut.	1	1	1
Forty-ninth Lieut.	1	1	1
Fiftieth Lieut.	1	1	1

* The 1st batteries will not require higher establishments than the ordinary 1914

The peace establishments of the regimental and *Abteilung* staffs, each within the following table.

Peace Establishment	Regimental Staff		
	Regimental Staff	Abteilung Staff	Abteilung Staff
Regimental Commander	1	1	1
Regimental Adjutant	1	1	1
Regimental Quartermaster	1	1	1
Regimental Veterinary Officer	1	1	1
Regimental Paymaster	1	1	1
Regimental Chaplain	1	1	1
Regimental Band Leader	1	1	1
Regimental Cook	1	1	1
Regimental Saddler	1	1	1
Regimental Farrier	1	1	1
Regimental Blacksmith	1	1	1
Regimental Carpenter	1	1	1
Regimental Shoemaker	1	1	1
Regimental Tailor	1	1	1
Regimental Barber	1	1	1
Regimental Doctor	1	1	1
Regimental Nurse	1	1	1
Regimental Pharmacist	1	1	1
Regimental Engineer	1	1	1
Regimental Electrician	1	1	1
Regimental Telegrapher	1	1	1
Regimental Signaller	1	1	1
Regimental Interpreter	1	1	1
Regimental Translator	1	1	1
Regimental Secretary	1	1	1
Regimental Clerk	1	1	1
Regimental Messenger	1	1	1
Regimental Porter	1	1	1
Regimental Cook	1	1	1
Regimental Saddler	1	1	1
Regimental Farrier	1	1	1
Regimental Blacksmith	1	1	1
Regimental Carpenter	1	1	1
Regimental Shoemaker	1	1	1
Regimental Tailor	1	1	1
Regimental Barber	1	1	1
Regimental Doctor	1	1	1
Regimental Nurse	1	1	1
Regimental Pharmacist	1	1	1
Regimental Engineer	1	1	1
Regimental Electrician	1	1	1
Regimental Telegrapher	1	1	1
Regimental Signaller	1	1	1
Regimental Interpreter	1	1	1
Regimental Translator	1	1	1
Regimental Secretary	1	1	1
Regimental Clerk	1	1	1
Regimental Messenger	1	1	1
Regimental Porter	1	1	1

The total peace establishment (1st October, 1913) of the field and horse artillery is

- 1. 1st Division.
- 2. 2nd Division.
- 316 veterinary officers.
- 529 paymasters and assistant paymasters.
- 101 bandmasters.
- 314 art fitters.
- 14,181 non commissioned officers.
- 72,190 rank and file.
- 7,327 horses.
- 3,327 guns and howitzers.

* For 1st Cavalry Division.

† For 2nd Cavalry Division.

Field Artillery School of Gunnery. This school (*Feldartillerie-Schule-Stuttgart*) is situated at Jüterbog, and has for its object the instruction of officers of the field artillery at various periods of their careers. It also affords facilities for the carrying out of experiments and for the investigation of all questions of artillery questions. The commandant is a Major-General, and he has a lieutenant-colonel and a major to assist him, with a lieutenant as adjutant. There are 9 instructors, of whom 7 are majors and 2 captains.

The school is a regiment of field artillery, consisting of three battalions of three batteries each—one of the *Abteilungen* being armed with field howitzers—is permanently at the School of Gunnery. The non commissioned officers, gunners, and drivers of the regiment are specially selected men drawn from other regiments of field artillery. The regiment serves as the instructional Regiment (*Lehr-Regiment*).

For details as to the courses held, see page 208, "Military Reserves of the German Empire, 1911."

WAR ORGANIZATION

General. Nothing is laid down officially or semi-officially for the war organization of the field artillery, but it seems certain that no Corps field artillery will be formed, and that the same distribution to divisions will be maintained.

It is probable that, as stated above, two horse artillery batteries will be allotted to each of the 11 cavalry divisions which it is expected will be formed. In an Army-Corps the 1st Cavalry Division will have 12 field howitzer batteries, and the other division will have 12 field batteries.

The following field artillery units will be mobilized:

(a) Field artillery batteries (56.4, horse and field howitzer batteries organized in *Abteilungen*, 2 batteries and 2 *Abteilungen*).

(b) Light ammunition columns.

War establishments. The approximate strength of these units are given in the table on page 142, which the peace strength of the units is inserted to facilitate comparison.

PEACE AND WAR ESTABLISHMENTS OF J. EDWIN ARTHUR, F.R.S.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 104

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

(16.) Field Artillery Batteries

General.—As stated above the *Abteilungen*, regiments and *Battalions* group

[illegible]
$$\text{Regin}_{\text{out}} = \text{two Abundances}$$

Brigade = two r's

Organization and transport. Field, no . . .
Howitzer batteries are organized thus at war . . .

[illegible]

Figures and wagons of the ... in three sections. The war strength of horse and foot batteries are given in the table.

Armament.—The horse and field batteries are armed with a quick-firing field gun (the 1896 gun with improvements introduced in 1906 and 1907, and the 1907 gun), and the mountain batteries have recently been re-armed with new 75 mm. calibre, quick firing howitzer.

The field gun. 8—11 11 9 3

■ Two 1-horse battery

† Tenio nro. p. lxxviii.

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

§ For a more complete

... ..

gite converted and mounted on a shielded, gun-recor. carrying principal details are as follows:

Calibra 8.03 inches

It is a lot of shrapnel + high xp w/

We also let β denote the fixed transition and payoff γ .[illegible]

152

Maximum percussive force 180 y

$\text{mean} = 9.0$, $\sigma_{\text{max}} = 1.0$, $p = 1$ up to -0.60 at $z = 0$.

Weight of gun 14.9 lb.

Weight of gas	inhered. p without men	85.64 w
---------------	------------------------	---------

to persons and things, but it is not fired for an independent line of sight. It is fully armed, the upper part of the shield when erected, is about 5 ft. 6 in. high, and the recesses of the shield are said to be 4 ft. 6 in. deep. The carriage is on 4 ft. of wheels and the axle is across the middle of each wheel. The

13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 8

For a _____ with team about 43 cwt.
 a numbered section the gun, the

Reported by propa. There is a hanging

1. The first part of the paper is devoted to the study of the asymptotic behavior of the solutions of the system (1) as $t \rightarrow \infty$. It is shown that the solutions of the system (1) are bounded and tend to zero as $t \rightarrow \infty$ if the matrix A is stable. The second part of the paper is devoted to the study of the asymptotic behavior of the solutions of the system (1) as $t \rightarrow \infty$ if the matrix A is not stable. It is shown that the solutions of the system (1) are unbounded and tend to infinity as $t \rightarrow \infty$ if the matrix A is not stable.

7500 (1900-1910) (146).

T.

... map are carried on the exterior seats. The
... the wheel driver can get it on by

[illegible]

The *light field* however—The issue of the *quick firing light field* however (M 98/09) was commenced in 1, 10, and is now completed.

41810

14 cells

We can also use the following theorem to show that \mathbb{R}^n is a Hilbert space.

| | |
|-------------------|--------|
| Muzzarelli, Italy | 986 f. |
|-------------------|--------|

| | | | |
|------------------------|-----|----|---------|
| Maximum perching range | +++ | ++ | 8,100 y |
|------------------------|-----|----|---------|

... up to 008.0

1. I can't read it round a minute

Weight in action 22½ CW

| | |
|----------------------------------------|--------|
| Weight added up with all gannets . . . | 57 cwt |
|----------------------------------------|--------|

Number of rodents in chamber 13

Inkless of Bared 4 ml.

Fixed ammunition is used and is packed in the limbers and wagons (baskets containing three rounds each two ght 61.7 lbs.). The number of rounds in the limber 96 and the wagon 90 respectively. The total number of rounds in the number of No. 1 stores is 1080. The total number of rounds in the number of No. 2 stores is 1080.

The loss in the 1970's is shown in the table on page 147, and the numbers of on-again she's carried for the new equipment are presently very similar.

* Weight of field howitzer ammunition, 2 rounds and 3 cartridges in basket, is average 72.7 lbs. and high-explosive 85.8 lb. + T. a. universal is estimated to weigh 34.8 lbs. and to contain 2.6 lbs. of explosive.

ASSEMBLY CARRIED FOR FIELD ARTILLERY

[illegible]

Laying, observation, and communication stores.—A battery of horse or field artillery has a

Battery telephone.—A battery of horse or field artillery has a battery telephone. It is a

Battery director.—This is a telescope graduated base-plate, and capable of

Observation wagon.—This is a wagon with the observation wagon. It is a

Tools.—The tools of a battery are shown in Appendix XI.

Armament of personnel.—Officers carry Non commissioned officers, trumpeters gun and all drivers have artillery pattern swords, while

Equipment of personnel.—The equipment of personnel is shown in Appendix XII.

Artillery gunners.—The artillery gunners carry their own knapsacks. In war wagons and the messes they are strapped to a fold of water are also placed the forage

Uniform.—For the uniform of personnel is shown in Appendix XIII.

* Or automatic pistols, the issue of which

(1) **Dark Blue Uniform** (see Plates 9, 21, 25 and 27).

Tunic.—Dark blue tunic with black collar and cuffs, and a row of straps with the regimental number or titular monogram (see Plate 18), the colour of the shoulder straps varying with the Army Corps (see Plate 18). The Saxony regiments wear a dark green tunic with

Head dress.—A black polished leather helmet with brass ornaments and knob for the field artillery, and horse-hair plumes for horse

| | | | | |
|-----------------|-----|-----|-----|---------|
| Guard regiments | ... | ... | ... | White |
| Saxonia | ... | ... | ... | Scarlet |
| Romanian | ... | ... | ... | Black |

Forage cap.—Dark blue, with black band (scarlet for Saxony artillery) and scar of piping.

Coat and greatcoat.—Light grey, with shoulder straps of the same colour as those of the tunic and collar patches of the same colour as

Head dress.—A black polished leather helmet with brass ornaments and knob for the field artillery, and horse-hair plumes for horse

Uniform.—For the uniform of personnel is shown in Appendix XIII.

Artillery gunners.—The artillery gunners carry their own knapsacks. In war wagons and the messes they are strapped to a fold of water are also placed the forage

Uniform.—For the uniform of personnel is shown in Appendix XIII.

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Uniform.—For the uniform of personnel is shown in Appendix XIII.

Artillery gunners.—The artillery gunners carry their own knapsacks. In war wagons and the messes they are strapped to a fold of water are also placed the forage

The total peace establishment (1st October, 1913) of the foot artillery is

- 1,332 officers
- 82 medical officers.
- 35 veterinary officers.
- 29 paymasters and assistant paymasters.
- 25 bandmasters.
- 50 artificers.
- 5,324 non-commissioned officers.
- 28,000 men.
- 3,391 horses.

Foot Artillery School of Gunnery. This school (*Fussartillerie-Schule-Schule*) is situated at Jüterbog, and has for its object the instruction of officers and non-commissioned officers of the foot artillery. It also affords facilities for the elaboration of improvement in methods of firing, for the carrying out of experiments in equipment, and for following the progress of foreign artilleries.

The commandant is a Colonel, who has a field officer as assistant commandant and a lieutenant as adjutant. He is assisted by eight instructors (six majors and two captains).

Two battalions (eight batteries) of foot artillery, forming the Instructional Regiment (*Lehr-Regiment*), are permanently at the school, as are also two of the foot artillery draught horse sections (*Despannungs Abteilungen*).

For details as to the courses held, see page 300, "Military Resources of the German Empire, 1911."

WAR ORGANIZATION

General.—Howitzer and mortar battalions will be formed on mobilization, and the units which will accompany the Field Army will be the heavy field howitzer batteries with the 5.9-inch (15 cm.) howitzer, four such batteries forming a battalion, and 8.27 inch (21 cm.) mortar batteries, two of which make up a battalion.

These heavy field howitzer and mortar battalions, when brought together for special purposes, will in all probability be organized in regiments as found necessary, but normally the heavy field howitzers will be allotted in the proportion of one battalion to an Army-Corps.

It is not improbable that heavy guns e.g., 10 inch or possibly heavier natures (see page 153), will also be brought into the field, but these will, as a rule, form the armament of siege units.

WAR ESTABLISHMENTS (APPROXIMATE) OF UNITS OF THE HEAVY ARTILLERY OF THE FIELD ARMY

| | Heavy Field Howitzer | Mortar Battery | Heavy Field Howitzer | Mortar Battery | Heavy Field Howitzer | Mortar Battery |
|---------------------------|----------------------|----------------|----------------------|----------------|----------------------|----------------|
| Officers | 1 | 1 | 1 | 1 | 1 | 1 |
| Non-Commissioned Officers | 25 | 22 | 4 | 4 | 4 | 4 |
| Privates | 100 | 100 | 100 | 100 | 100 | 100 |
| Horses | 100 | 100 | 100 | 100 | 100 | 100 |
| Wagons | 1 | 1 | 1 | 1 | 1 | 1 |
| Field Kitchen | 1 | 1 | 1 | 1 | 1 | 1 |

Heavy Field Howitzer Battery

General.—As stated above these batteries will be grouped in battalions (four batteries) and possibly regiments.

Organization and transport.—A heavy field howitzer battery is organized as follows at war strength

| | |
|-------------------|-----|
| 1 Howitzer | 100 |
| 1 mortar | 100 |
| 1 transport | 100 |
| 1 field kitchen | 100 |
| 1 field hospital | 100 |
| 1 field ambulance | 100 |
| 1 field wagon | 100 |
| 1 field kitchen | 100 |
| 1 field hospital | 100 |
| 1 field ambulance | 100 |
| 1 field wagon | 100 |

* Including field kitchens, which will be issued, when available

Uniform.—For rules as to tax w. of log skids, see *supra* note 1. For "field service" uniforms, see page 108.

(1.) *Dark Rose* *L. majorem* (see Plate 9.)

The uniform is the same as that of the field artillery (see page 49), except that the shoulder straps are white, the cuffs are of a different pattern, and the trousers have scarlet piping. In Saxony the field artillery wears the same uniform as the field

Bayonet knife. As for infantry, (see Plate 15)

(iii.) *Field Service Uniform* (see Plates 37-39 and 44).

It is uniform is the same as that for the field artillery (see page 149), with the addition of minor exceptions.

Tunic. The shoulder straps are edged with white, and on them is borne the regimental number in red. The cuffs are of Brandenburg pattern.

Badges of rank. See page 10.

Mortar Battery.

General. These batteries will be grouped in battalions of two batteries and possibly in regiments.

Organization and transport. -A 21 cm mortar battery is organized as follows at war strength --

$\Gamma \in \mathcal{U} \quad \{ \text{the set of } \gamma \text{ such that } \gamma \in \Gamma \}$

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Ref. from water 6-101-581

Gun erkeles i turskute Stajfel—

- 1 thing carrying 1 (1000 used).

$$4 \text{ km}^2 \leq \text{Area} \leq 100 \text{ km}^2$$

1st Lin. Transport--

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- HYDRO WAGON. 6-BUTANOL

517.21 415.2

field K to be 3-horsed when $\text{Sym}(K)$ is

244 1. The temperature

- [†] In English, will.

1 SUPPLY WITH ME

1 foreign w pro

1. The first of these is the fact that the system is not in a steady state. The system is in a steady state only if the rate of change of the number of particles is zero. This is not the case here, as the number of particles is increasing with time.

The mobility of the battery is not great, as it can only move at a walk, and is practically confined to good roads.

War establishment. The approximate war establishment is given on page 153

Armament. The battery is armed with the 91 cm (8.27 inch) mortar of which there are several marks. Though termed mortars they are all really breech-loading howitzers.

the record is also a

When Irving

ru. graduates in m. tre.

11. *Chrysomelidae* (10 species)

1. The first group of people who are interested in the study of the history of the United States are the people who are interested in the history of the United States.

il 4

$$P_{\alpha} = \frac{1}{2} \left(\frac{1}{\alpha} + \alpha \right) \quad \text{for } \alpha \in \mathbb{R}^n$$

1944

[illegible]

1. The first group of people who are not allowed to enter the country are those who are not citizens of the United States. This group includes all foreign-born individuals, regardless of their legal status in the country.

The new 21 cm mortar has only recently been introduced, it will probably form the armament of those batteries

As allotted to the Field Army, the older pattern mortars being

Amputation of the right arm at the shoulder joint. The patient was discharged on the 10th day after the operation. The wound healed by first intention.

100

Very wagons being brought
in for the purpose of the station
The

laying observation and communication stores. The

at _____ t. _____ located with the heavy field howitzers are

had in a basket the total weight of shell cartridge and

Uniform.—See page 156
Badges of rank. See page 1

Siege Artillery Units

General organization. The stage artillery, which will be formed on mobilization, will be organized in stage-artillery regiments of two battalions. (Battalion = 4 batteries = 24 guns (or 16 howitzers).)

Several regiments will be formed together into a brigade, which will have allotted to it an artillery park consisting of several park battalions.*

Armament. The following guns, howitzers and mortars will form the armament of these units: -

- 1) cm. gun (range, 11,800 yards).
Heavy 12 cm. gun (range, 7,900 yards)
12 cm. gun (a modern gun, range over 18,000 yards).
Long 12 cm. gun, being replaced by the 18 cm. gun (range, 14,000 yards).

Heavy field,owitzor '02 (range, 8,150 yards)

21 cm. mortar (range 8,400 yards).

Bronze 21 cm mortar (range 7,000 yards)

• ena: (writz, r (Mönan v'er fer))

+8. [redacted] switzer coast defense mortar, rang 1. 00 r s

C. AMMUNITION COLUMNS.

General. The following ammunition columns were mobilized:

- (a.) Light ammunition columns.
- (b.) Heavy ammunition columns.
 - (1.) Artillery ammunition columns.
 - (2.) Infantry ammunition columns.
- (c.) Light ammunition columns for cavalry divisions.
- (d.) Light ammunition columns of battalions of the Lieg. v.
 - (1.) of the Field Army
- (e.) Foot artillery ammunition columns.
- (f.) Line of communication ammunition columns.

The light ammunition columns are replenished by the

of these 28 cm. howitzers, and that a 32 cm. howitzer
macrodon (two batteries of two). Reports have been
(August, 1914) that ten 32 cm. siege guns have been issued, which
about 12 feet in length, and fire a shell 5 feet 1 inch in length
weighing 1350 lbs.

heavy columns, the latter being replenished as ordered 'v
the liquor of the L. of C. at the

(a.) Light Ammunition Column

This has been described under the heading of field artillery (see page 149).

(b) Heavy Ammunition Columns

Each field artillery regiment of the peace footing mobilizes

[illegible]

These heavy ammunition columns are organized as follows:

$$\Delta^{\frac{1}{2}}(t) = \Delta^{\frac{1}{2}}(0) - \frac{1}{2} \int_0^t \Delta^{\frac{1}{2}}(s) ds \quad \text{for } t \in [0, \infty).$$

- Half-company { 1 section of 1 ammunition wagon and 1 str. re

[illegible]

$f_{\text{TP}} = \mu_0 \cdot N \cdot f_{\text{TP}'}^*$

Infanteria armamentum (alano, l. b. e.)

- I. Na f-column, 6 sections: 2 2 4 3 3 2 3 7 0 5

II. ad I. respondetur:

[illegible]

reservado para o Povo Brasileiro - (C) 1987

24. $y = \frac{1}{2} \sin x$ $y = \frac{1}{2} \cos x$

7. $\frac{1}{2} \times 100 = 50\%$

1. The first part of the document is a letter from the President of the United States to the Congress, dated January 3, 1862. It is a very short letter, only one paragraph long, and it is written in a very formal, official style. It is addressed to the Congress and is signed by the President.

wagons.

The war stretches and are out of place in the world.

shown in the table on page 162

The war strengths and use of man power were shown in the table on page 162.

(c) Light Ammunition Column for Cavalry Division.

This is attached to the horse artillery Abteilung of the cavalry division and is organized in three sections. In *Sektion I* and *II* the sections consist of seven transport wagons and a horse-drawn machine gun is carried. The 2nd line transport consists of one supply, one store (field forge), and two forage wagons.

The war strength and amount of ammunition carried are shown in the table on page 162.

(d) Light Ammunition Column of a Battalion of Heavy Artillery of the Field Army.

The 29 vehicles consist of one store, two forage, one supply, one smith's, and 24 ammunition wagon.

The war strength and amount of ammunition carried are shown in the table on page 162.

The force and amount of ammunition carried by the battalion of the heavy artillery of the Field Army.

(e) Foot Artillery Ammunition Column (Heavy)

The 20 vehicles consist of one store, one forage, one smith's, and 17 ammunition wagon.

The war strength and amount of ammunition carried are shown on page 162.

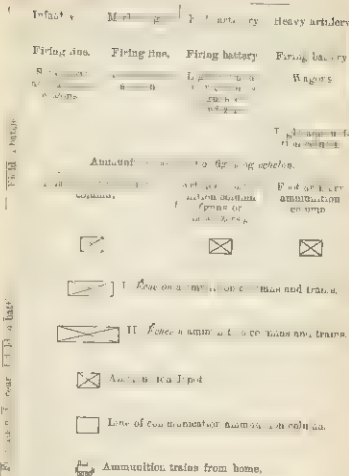
There are two of these ammunition columns for every battery of heavy field howitzers or mortars with the Field Army.

(f) Line of Communication Ammunition Column.

The 53 vehicles consist of two store, one smith's, and 50 two-horse-drawn transport wagons. This column is sent forward empty to the deployment area and is used for the transport of infantry, field artillery or foot artillery ammunition as required.

For war strength and amount of ammunition carried it can be loaded, see table on page 162.

GRAPHIC OF AMMUNITION SUPPLY



CHAPTER VIII

TECHNICAL TROOPS

ENGINEERS, PIONEERS AND COMMUNICATION TROOPS

General.—The main duties with which the British Corps of Royal Engineers is charged are divided into three classes:—
Army between

- A (1) The Corps of Engineers (Engineers).
- (2) The Corps of Fortress Constructors (Fortress Engineers).
- B The Corps of Pioneers (Pioneer Corps).
- C Various units of the Military Communication Service (Militär-Versuchswesen).

Other cognate duties* which we are accustomed to view as engineer services are carried out as follows:

- (a) Barracks and military buildings, not included under the designation "Fortifications," by the Barrack Construction Department (Garnison-Bauwesen), a branch of the *Intendantur* (see page 23).
- (b) Survey, by the General Staff.

A (1), A (2), and B, are distinct corps, but all three are under the Inspector-General of the Corps of Engineers and Pioneers and of Fortresses.

Engineer and Pioneer officers.—The officers of A (1) and B are on one list for promotion, and are interchangeable in the sense that an officer of pioneers may be transferred to the engineers and vice versa. They enter the service under the same system, and their preliminary training is identical.

* Submarine mining is carried out by the Navy, as is also the use of gas.

It is in their employment only that they differ, for pioneers have no share in purely engineer services, in spite of the fact that, in the Regulations for the attack of fortresses, the commanding engineer and commanding pioneer generals appear to be interchangeable.

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1. 1st Div. | 2. 2nd Div. | 3. 3rd Div. | 4. 4th Div. | 5. 5th Div. | 6. 6th Div. | 7. 7th Div. | 8. 8th Div. | 9. 9th Div. | 10. 10th Div. | 11. 11th Div. | 12. 12th Div. | 13. 13th Div. | 14. 14th Div. | 15. 15th Div. | 16. 16th Div. | 17. 17th Div. | 18. 18th Div. | 19. 19th Div. | 20. 20th Div. | 21. 21st Div. | 22. 22nd Div. | 23. 23rd Div. | 24. 24th Div. | 25. 25th Div. | 26. 26th Div. | 27. 27th Div. | 28. 28th Div. | 29. 29th Div. | 30. 30th Div. | 31. 31st Div. | 32. 32nd Div. | 33. 33rd Div. | 34. 34th Div. | 35. 35th Div. | 36. 36th Div. | 37. 37th Div. | 38. 38th Div. | 39. 39th Div. | 40. 40th Div. | 41. 41st Div. | 42. 42nd Div. | 43. 43rd Div. | 44. 44th Div. | 45. 45th Div. | 46. 46th Div. | 47. 47th Div. | 48. 48th Div. | 49. 49th Div. | 50. 50th Div. | 51. 51st Div. | 52. 52nd Div. | 53. 53rd Div. | 54. 54th Div. | 55. 55th Div. | 56. 56th Div. | 57. 57th Div. | 58. 58th Div. | 59. 59th Div. | 60. 60th Div. | 61. 61st Div. | 62. 62nd Div. | 63. 63rd Div. | 64. 64th Div. | 65. 65th Div. | 66. 66th Div. | 67. 67th Div. | 68. 68th Div. | 69. 69th Div. | 70. 70th Div. | 71. 71st Div. | 72. 72nd Div. | 73. 73rd Div. | 74. 74th Div. | 75. 75th Div. | 76. 76th Div. | 77. 77th Div. | 78. 78th Div. | 79. 79th Div. | 80. 80th Div. | 81. 81st Div. | 82. 82nd Div. | 83. 83rd Div. | 84. 84th Div. | 85. 85th Div. | 86. 86th Div. | 87. 87th Div. | 88. 88th Div. | 89. 89th Div. | 90. 90th Div. | 91. 91st Div. | 92. 92nd Div. | 93. 93rd Div. | 94. 94th Div. | 95. 95th Div. | 96. 96th Div. | 97. 97th Div. | 98. 98th Div. | 99. 99th Div. | 100. 100th Div. |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------|

Total 1,161

A. (1)—THE CORPS OF ENGINEERS.

Organization. The duties of this corps are:

The construction and maintenance generally of fortresses, including the supervision of the telegraph, pigeon, and electric light services in fortresses, the custody of the demolition chambers in bridges and tunnels.

The officers are allotted to the various fortresses, and are expected to be acquainted with every detail of the defences and the surrounding country.

Members for technical committees and instructional establishments are also drawn from the corps.

For administrative purposes it is divided into four Præsidien and one Bavarian "Engineer Inspections" (or, as we should call them, districts, each under a major general. These five "Engineer Inspections" are sub-divided into nine "Fortress Inspections," each under a colonel or lieutenant colonel, assisted by an adjutant.

Each fortress is in charge of a major.

In war the officers would be employed in siege and in the defence of fortresses.

The men of the engineers.

Uniform. The men of the engineers are dressed in the same uniform as the men of the army, see page 108.

(1. Dark Blue Uniform

The dark blue uniform with black velvet collar and cuffs, and two silver bands, and silver epaulettes.

Saxon engineer officers, who wear dark green tunics with scarlet collar and cuffs and buttons.

Trousers.—Dark blue, with black velvet collar patches edged with scarlet.

Pantaloons.—Dark blue, without any piping.

Head-dress.—Helmets with silver badges and white horse-hair plumes. Pique caps, dark blue with black velvet band and scarlet lining, worn on top and bottom of helmet.

Foot-gear.—Black leather boots and puttees.

Badges of rank.—See page 118.

(II.) Field Service Uniform.

The uniform is the same as that of the infantry (see page 112) with the following distinctions:

Tunic.—Dark velvet collar patches edged with scarlet, collar and cuffs edged with black velvet, silver buttons, front of tunic edged with scarlet.

Cap.—Band of black velvet, with scarlet welt round crown and top and both in of band.

Badges of rank.—See page 118.

A. (ii.)—THE CORPS OF FORTRESS CONSTRUCTORS.

Organization. The Corps of Fortress Constructors consists of

The fortress construction officers (captains, lieutenants and 2nd lieutenants), of whom there are about 165.

The fortress construction sergeant-majors (*Festungsbau-feldwebel*).

The staff sergeants of fortifications (*Oberwallmeister* and *Wallmeister*).

The carrier pigeon personnel (*Brieftauben Schirmmeister*).

The personnel is drawn from qualified non-commissioned officers of the pioneers, who, before appointment as *Festungsbau-feldwebel* or *Wallmeister*, must undergo a special course of education at the *Festungsbau* and the *Wallmeister* schools respectively.*

The *Festungsbau-feldwebel* is a man of superior education, and can eventually be promoted to *Festungsbau-leutnant*.

* See page 213, "Military Education and Training in Germany."

whereas the *Wallmeister* can never be promoted to the rank of officer.

The personnel is employed as follows:—

Peace. On fortification work generally. At headquarters with the Engineer Committee, the General Inspection of the Engineer and Pioneer Corps, and the School of Fortress Construction.

Service in independent forts is the most popular. The duties comprise electrical works, fortress telegraphs, and pigeon post.

War.—The corps generally remain in their fortresses, except when summoned for service of works in the field with siege corps and work search lights. The personnel on duty at a fort is at the disposal of the Inspector General of the Engineer and Pioneer Corps, and can be ordered (1901).

Uniform.

(1.) Dark Blue Uniform (see Plate 12).

The uniform is similar to that of engineer and pioneer officers, with the following distinctions:

Epulettes are worn, except by *Wallmeister*, who wear shoulder straps. The epulettes are green for *Festungsbau* and blue for *Wallmeister*. The letters F.B.O.* are worn on the epulettes and shoulder straps instead of numbers.

Tunic.—Dark blue velvet collar patches edged with scarlet, collar and cuffs edged with black velvet, silver buttons, front of tunic edged with scarlet.

Cap.—Dark blue velvet band, with scarlet welt round crown and top and both in of band.

Foot-gear.—Black leather boots and puttees.

Badges of rank.—See page 118.

(II.) Field Service Uniform.

N.

Badges of rank.—See page 118.

B.—THE CORPS OF PIONEERS.

Peace organization.—The Corps of Pioneers represents the British Labour Corps, including trainees, and fortress

* *Festungsbau* Officers.

companies. It consists of 35 battalions, 1 experimental company and 26 searchlight sections allotted as follows:

| | | |
|-------------|-----|--------------------------------------------|
| Prussia | ... | 28 battalions and 20 searchlight sections. |
| Bavaria | 1 | " " 3 " " |
| Saxony | 1 | " " 2 " " |
| Württemberg | 1 | " " 1 " " |
| Total | 35 | 26 |

Prussia furnishes the experimental company.

One battalion is allotted to each Army Corps except the 1st, IIIrd, Vth, VIIth, VIIIth, XVth, XVIth, XVIIth, XXth and IIIrd Bavarian Army Corps, which have two each, forming a regiment with regimental staff under a colonel.

The head of the corps, as previously stated, is the Inspector-General of Engineers and Pioneers, who is assisted in his duties by four Pioneer "Inspections," each under a major-general. These latter officers are responsible for the technical instruction of 7 or 8 battalions each, but for purposes of discipline, general training and administration, pioneer battalions are under the orders of the commander of the Army Corps to which they belong.

In peace each battalion has 4 companies,* numbered 1 to 4 except the 1st and 3rd Bavarian, which have only three each.

Peace establishments. The peace establishments of pioneer units are shown in the table on page 170.

The total peace establishment (1st October, 1913) of the pioneers is:

| |
|---------------------------------------------|
| 1476 officers |
| 1476 privates |
| 1476 non-commissioned officers and privates |
| 1476 privates |
| 1476 privates |
| 1476 privates |
| 1476 privates |
| 1476 privates |
| 1476 privates |
| 1476 privates |

* 26 privates per company and 1 searchlight section attached.

War formations.--On mobilization a pioneer battalion normally forms--

- A battalion staff, which joins the staff of the Army Corps.
- 3-5 pioneer field companies, 1-2 being permanently attached to each division and 1 kept at the disposal of the Army-Corps commander.
- 2 divisional bridge trains, 1 attached to each division.
- 1 corps bridge train with a special detachment of pioneers.

Certain battalions will mobilize detachments of pioneers to accompany the cavalry divisions, and field and fortress searchlight sections, while other battalions will form pioneer sapper trains, and special fortress and sapper units organized in regiments of 2 or 3 battalions. For example, the 18th, 19th, 20th, and 25th battalions (the 2nd pioneer battalion of the 1st, VIIth, XVth, XVIth and XVIIth Army Corps), whose headquarters are respectively the fortresses Königsberg, Münster, Strassburg, Metz, and Mainz, would probably be employed as fortress pioneers.

If specially required, a heavy Rhine bridge train will be formed.

Strengths of units. The following table gives the peace and approximate war strengths of pioneer units.

PEACE AND WAR ESTABLISHMENTS OF PIONEER UNITS.

| Unit | Peace. | | | Notes | War approximate |
|------------------|---------|-------------------|----------------|--------------|-----------------|
| | Company | Men and paymaster | Wagon and mule | | |
| 1st Cavalry (C) | 5 | 15 | | 1st Cavalry | 1st Cavalry |
| 2nd Cavalry (C) | 2 | 38 | | 2nd Cavalry | 2nd Cavalry |
| 3rd Cavalry (C) | | | | 3rd Cavalry | 3rd Cavalry |
| 4th Cavalry (C) | | | | 4th Cavalry | 4th Cavalry |
| 5th Cavalry (C) | | | | 5th Cavalry | 5th Cavalry |
| 6th Cavalry (C) | | | | 6th Cavalry | 6th Cavalry |
| 7th Cavalry (C) | | | | 7th Cavalry | 7th Cavalry |
| 8th Cavalry (C) | | | | 8th Cavalry | 8th Cavalry |
| 9th Cavalry (C) | | | | 9th Cavalry | 9th Cavalry |
| 10th Cavalry (C) | | | | 10th Cavalry | 10th Cavalry |

| | | | | | |
|------------------|---|----|--|--------------|--------------|
| 1st Cavalry (C) | 5 | 15 | | 1st Cavalry | 1st Cavalry |
| 2nd Cavalry (C) | 2 | 38 | | 2nd Cavalry | 2nd Cavalry |
| 3rd Cavalry (C) | | | | 3rd Cavalry | 3rd Cavalry |
| 4th Cavalry (C) | | | | 4th Cavalry | 4th Cavalry |
| 5th Cavalry (C) | | | | 5th Cavalry | 5th Cavalry |
| 6th Cavalry (C) | | | | 6th Cavalry | 6th Cavalry |
| 7th Cavalry (C) | | | | 7th Cavalry | 7th Cavalry |
| 8th Cavalry (C) | | | | 8th Cavalry | 8th Cavalry |
| 9th Cavalry (C) | | | | 9th Cavalry | 9th Cavalry |
| 10th Cavalry (C) | | | | 10th Cavalry | 10th Cavalry |

Header Section

15 pages and 4 c

- [illegible]

4-hr: d

[illegible]

Vehicles and equipment. The 15 vehicles and equipment are of uniform construction, are provided with 12-volt electrical systems, and have a loading angle of 45 degrees. They are loaded as follows:

They are coded as follows:

[illegible]

Source: U.S. Census Bureau, *U.S. Census of Population, Housing, and Agriculture, 1990*, Washington, D.C., 1992.

Pontoons. The pontoons* of the Division's bridge trains are of galvanized steel and are banded. The bow pieces differ from the stern pieces in that they have a raised bow to give extra safety in landing. The dimensions of both bow and stern pieces are 16 feet 9 inches long, 4 feet 7 inches wide and 2 feet 9½ inches deep internally, the bow piece weighs 661 lbs. and stern pieces 683 lbs. The hardwood (midships) of the bipartite pontoon varies from 31 inches in length to 3½ inches with a load of 1½ tons.

Bridging capacity See page 176

Corps Bridge Train.

Organization.—A Corps bridge train is composed of a pioneer detachment and a train detachment, and is under the command of the captain of the train detachment. It is organized as follows:

[illegible]

* The name of the present publisher is not known as of April, 1916.

The above personnel belong to the train; the pioneer detachment is composed as follows:—

- 2 officers (both mounted)
- 61 other ranks
- 2 privates of the train (one of whom is a medical orderlies)

On the march the men of the pioneer detachment carry helmets and entrenching tools on the march. When the bridge train are loaded with the support (pioneer) structure for one complete bay, there are the pontoon and trailer wagons out there, if necessary.

Vehicles and equipment.—All the bridge train are loaded with the support (pioneer) structure for one complete bay, there are the pontoon and trailer wagons out there, if necessary.

The equipment carried on the following vehicles is given in Appendix X, on page 216.

Pontoons.—The pontoons carried by a Corps bridge train are 261 feet long, 4 feet 11 inches wide and 2 feet 9 inches deep internally. They are made of steel and are only the same as that of the Corps (75), and they have the same shape as that of the Corps (75).

Brigading capacity.—Normal bridging capacity of a Corps bridge train is 14 tons. This capacity is strengthened by doubling the bulk of the army mechanical transport train (the tractor 34 tons) the bridge, most of which is the number of pontoons required for normal bridging capacity is increased from five to nine and the capacity is increased from 14 to 34 tons.

This type of heavy bridge may be used by the transport trains across rivers with a width of 100 to 150 feet.

The bridging capacity of the divisional bridge train is as follows:—

| Nature of bridge train. | Length | | Width | | Depth |
|----------------------------------------|--------|--------|-------|-------|-------|
| | Light | Normal | Heavy | Light | |
| 1 Divisional bridge train | 413 | 413 | 413 | 413 | 413 |
| 1 Corps bridge train | 169 | 169 | 169 | 169 | 169 |
| 1 Corps and 2 Divisional bridge trains | 257 | 257 | 257 | 257 | 257 |

The pontoon equipments can be used as rafts and are capable of ferrying heavy guns and army motor cars, transport.

Pioneer Detachment for a Cavalry Division

This detachment (*Pionier Abteilung einer Kavallerie Division*) consists of 1 officer and 33 of other ranks, with 6 horses and one 4-horse equipment and store wagon.

The men would probably use bicycles or be carried in requisitioned carriages. During manoeuvres 2 ladder-armed wagons, with 2 horses each, sufficed to carry a detachment of the above strength. The uniform and equipment are the same as for field companies. The tools and explosives carried are shown in Appendix X.

Armament of Personnel.—Rifles and drivers anti-aircraft pistol and anti-bay sword, bayonet, 1895 carbine, and sword bayonet.

Field Searchlight Units

In addition to the above, searchlight units will, no doubt, be included in the Field Army on mobilization. The peace establishment of these units is given in the table on page 170, and the war establishment is probably very small.

The technical equipment comprises both light and portable searchlights. The light searchlights are of the type which can be revolved horizontally about their axis and also in a vertical plane. The projector carriage has seats for two men. The dynamo is carried on a lumber and is driven by a 6-h.p. motor. The seats for the team (6 horses) on the lumber. The total weight behind the team (6 horses) is about 35 cwt. For fuller details of this equipment, see page 166. The portable searchlights are of the type which are used in the field. They are of the type which can be revolved horizontally about their axis and also in a vertical plane.

Heavy Rhine Bridge Train.

For special purposes a Heavy Rhine Bridge Train will be formed, composed of train and pioneer detachments of the strengths shown on page 171. The equipment of this train consists of bipartite pontoons with six-legged Belgian

The total personnel of the (1st Oct. 1917) was 1,000.

War formations. The 1st and 2nd battalions and the company of the 1st and 2nd battalions.

(a) Battalion of the 1st and 2nd battalions.

(b) Battalion of the 1st and 2nd battalions.

(c) Battalion of the 1st and 2nd battalions.

The 1st and 2nd battalions will be 1st and 2nd battalions.

The 1st and 2nd battalions will be 1st and 2nd battalions.

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The construction of the 1st and 2nd battalions.

The 1st and 2nd battalions will be 1st and 2nd battalions.

The 1st and 2nd battalions will be 1st and 2nd battalions.

Transport of the 1st and 2nd battalions.

The 1st and 2nd battalions will be 1st and 2nd battalions.

Wagon, 2nd and 3rd battalions.

Armament. The 1st and 2nd battalions.

Equipment. The 1st and 2nd battalions.

The 1st and 2nd battalions will be 1st and 2nd battalions.

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The 1st and 2nd battalions will be 1st and 2nd battalions.

$\frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} f(x) e^{-x^2} dx = \frac{1}{\sqrt{\pi}}$

, Army telegraph detachment. This unit, which is between the 1st and 2nd Army Headquarters and the 3rd Army Headquarters, has a total strength of 1,000 men and 1,000 horses. It has 1,000 miles of wire, 31 miles of cable, 1,000 miles of telephone apparatus and 42 telephones with antennae. It operates from 11 to 15 miles of wire (68 for the wire unit) at a speed of 1,100 yards in from 1 to 10 minutes, and establish 3 stations for emergency Morse and telegraph code. It has 3 telephone stations in

(b) **Corps telegraph detachment.**—This unit is organized and equipped to provide communication between Army Corps Headquarters and subordinate units.

and Army and Divisional Headquarters (when this latter has not been effected by the telephone detachments). It is more mobile than the Army telegraph detachment, being provided with mobile 3 horse vehicles.

Each section carries 2 field telegraph apparatus, 9 telephones and the necessary batteries, also 13½ miles of insulated field cable, 12½ miles of light insulated wire, and 3 miles of bare wire. It can lay 11 miles of line (80 for the whole unit) at a speed of 1,100 yards in 30 minutes, and can establish 2 to 3 stations for simultaneous Morse and telephone traffic and 2 telephone stations in addition.

All the men of the detachment can find room on the material wagons (*Materialwaggons*) for rapid transport when necessary. On these wagons are:

(c) Reserve division telegraph detachment. This unit practically corresponds to a single section of a Corps telegraph detachment.

(2.) **Wireless telegraph detachment.** One of these units is allotted to each Army. Of the 8 stations, 3 are reserved for Army Headquarters (one always open and one following the Headquarters when it moves), the remainder being distributed among the Army-Corps and the cavalry division.

The radius of action of a station is from 80 to 120 miles. The time required to erect or dismantle a station is about 1/2 hour and the rate of transmission 400 words per hour. It is believed that the *Telefunken* system has been adopted. The plant is at present carried on trailers and wagons (similar to artillery ammunition vehicles) drawn by 4 or 6 h. r. engines. The question of the provision of motor transport for field wireless plant is under consideration.

(c) **Telephone detachment.**—Telephone detachments will probably be allotted to the headquarters of Army-Corps and divisions.

The Jetsenment is organized in 3 squads (*Trupps*), each consisting of 1 mounted telegraph non-commissioned officer and 5 or 6 men, the whole detachment being under the command of a sergeant.

Each squad carries 5 miles of telephone cable and 4 telephones with batteries, these stores are carried on mules. Each squad can lay 4 miles of line in about 2 1/2 hours, and can establish 4 telephone stations.

The wires of the antenna of the [redacted] cat he arrived on
the wagon. The 6 [redacted] wire was broken [redacted]

Gas column The set of tests of the separation of the components of a mixture on a gas-liquid chromatograph. The gas column is a tube packed with a solid support material, which is coated with a liquid phase. The mixture is injected into the column and the components are separated by their different retention times. The gas column is used for the separation of volatile compounds.

Arabish detachment. One of these detachments will be attached to the 21st Infantry Division for attachment to the 1st Infantry Division. It will be attached to the 1st Infantry Division for attachment to the 1st Infantry Division.

Flying detachment A number of flying detachments were established to take aid to their organization have been published.

Transport

I, govt. H. March as a rule with the first of the (1st) and the second of the

Armament. 10 1/2" (100 lb) gun (12) and 1 pt that the men

Equipment: 1

$\epsilon = \frac{1}{n} \sum_{j=1}^n \left(y_j - f(x_j) \right)^2$

1. The first part of the paper discusses the importance of understanding the user's needs and expectations before designing a system.

balloon, called *Drachen* (kite) *Ballon*, 100

...partly when the velocity of the wind ...

1. The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation

...and on inside the large one can be found
...The car is attached so as to

W 8 T 15 rigid. The car is attached to the
w 8 T 15 rigid. The car is attached to the

$\frac{d^2}{dt^2} = \frac{d}{dt} \left(\frac{d}{dt} \right)$

1,100 yards long
one in colliders

It is required to find

3/2 1050000 1

1452000 1.000000 0.000000 0.000000

[illegible]

Uniform

[illegible]

[Faint handwritten notes at the bottom of the page]

$\frac{d}{dt} \left(\frac{\partial L}{\partial v^j} - p_j \right) = 0$

$$p = \frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} \right) = \frac{1}{2}$$

The following table shows the results of the analysis of variance for the effect of the type of soil on the yield of the different varieties of wheat.

$\frac{1}{n} \sum_{j=1}^n x_j = \bar{x}$

4. The Mechanical Transport Troops

Organization Test times (hr) 4.00 4.00 4.00 4.00 4.00

Mechanical Transport Services (see page 94), are organized

in a battalion consisting of 4 companies, included in which are Saxon and Württemberg detachments. The

are Saxon and Württemberg detachments. The Bavarian
military transport troops are combined with the 1st and 2nd

airship troops to form an Airship and Mechanical Transport Battalion (see page 184)

PRICE ESTABLISHMENTS OF MECHANICAL DRAWING

PEACE ESTABLISHMENTS OF MECHANICAL TRANSPORT TECHNOLOGY

| Unit | Officer | Medical
man | Other |
|------------------------------------------------------------------------------------------|---------|----------------|-------|
| | | 10 | 10 |
| The Mechanical Transport Battalion
The Saxon Detachment
The Württemberg Detachment | | | |
| Total (exclusive of Bavaria) | | | |
| on the 1st October, 1918 | | | |

The Mechanical Transport Battalion (*Kraftfahr-Bataillon*) is stationed in Berlin, and forms a training centre for mechanical transport drivers. It is a detachment of the 1st

with the fortress, and is of the same rank as the commander of the fortress. He is known as the *Verkehrsvorsteher vom Platz*, and is on the staff of the Governor of the fortress. He is, as a rule, assisted in his duties by a subaltern and a few warrant and non-commissioned officers. All fortress communication officers are under the Inspector of Fortress Communications who, in his turn, is under the Inspector-General of the Military Communication Service.

Army mechanical transport train.—The main particulars of

the organization of the army mechanical transport train are as follows:—The train is divided into three sections, the first of which is the engine section, the second is the transport section, and the third is the baggage section. The engine section is commanded by a subaltern, the transport section by a warrant officer, and the baggage section by a warrant officer. The train is divided into three companies, the first of which is the engine company, the second is the transport company, and the third is the baggage company. The engine company is commanded by a subaltern, the transport company by a warrant officer, and the baggage company by a warrant officer. The train is divided into three platoons, the first of which is the engine platoon, the second is the transport platoon, and the third is the baggage platoon. The engine platoon is commanded by a subaltern, the transport platoon by a warrant officer, and the baggage platoon by a warrant officer. The train is divided into three sections, the first of which is the engine section, the second is the transport section, and the third is the baggage section. The engine section is commanded by a subaltern, the transport section by a warrant officer, and the baggage section by a warrant officer. The train is divided into three companies, the first of which is the engine company, the second is the transport company, and the third is the baggage company. The engine company is commanded by a subaltern, the transport company by a warrant officer, and the baggage company by a warrant officer. The train is divided into three platoons, the first of which is the engine platoon, the second is the transport platoon, and the third is the baggage platoon. The engine platoon is commanded by a subaltern, the transport platoon by a warrant officer, and the baggage platoon by a warrant officer.

Uniform.—The uniform of the army mechanical transport train is as follows:—The uniform is of the same pattern as the uniform of the army, but is of a different color. The uniform is divided into three sections, the first of which is the engine section, the second is the transport section, and the third is the baggage section. The engine section is commanded by a subaltern, the transport section by a warrant officer, and the baggage section by a warrant officer. The train is divided into three companies, the first of which is the engine company, the second is the transport company, and the third is the baggage company. The engine company is commanded by a subaltern, the transport company by a warrant officer, and the baggage company by a warrant officer. The train is divided into three platoons, the first of which is the engine platoon, the second is the transport platoon, and the third is the baggage platoon. The engine platoon is commanded by a subaltern, the transport platoon by a warrant officer, and the baggage platoon by a warrant officer.

5 The Experimental Detachment and Experimental Company of the Military Communication Service.

Organization.—The detachment is organized under the Inspector-General of the Military Communication Service. It is divided into three sections, the first of which is the engine section, the second is the transport section, and the third is the baggage section. The engine section is commanded by a subaltern, the transport section by a warrant officer, and the baggage section by a warrant officer. The detachment is divided into three companies, the first of which is the engine company, the second is the transport company, and the third is the baggage company. The engine company is commanded by a subaltern, the transport company by a warrant officer, and the baggage company by a warrant officer. The detachment is divided into three platoons, the first of which is the engine platoon, the second is the transport platoon, and the third is the baggage platoon. The engine platoon is commanded by a subaltern, the transport platoon by a warrant officer, and the baggage platoon by a warrant officer.

At the disposal of this detachment is the Experimental Company of the Military Communication Service. It is divided into three sections, the first of which is the engine section, the second is the transport section, and the third is the baggage section. The engine section is commanded by a subaltern, the transport section by a warrant officer, and the baggage section by a warrant officer. The company is divided into three companies, the first of which is the engine company, the second is the transport company, and the third is the baggage company. The engine company is commanded by a subaltern, the transport company by a warrant officer, and the baggage company by a warrant officer. The company is divided into three platoons, the first of which is the engine platoon, the second is the transport platoon, and the third is the baggage platoon. The engine platoon is commanded by a subaltern, the transport platoon by a warrant officer, and the baggage platoon by a warrant officer.

Uniform.—As for railway troops (see page 181), except that the

6 The Garrison Communication Officers of Fortresses.

In all the larger fortresses, e.g., Metz, Strassburg, Colmar, Mainz (Mayence), Koenigsberg, Thorn, Graudenz, Posen, Neuenburg, and Gumbinnen, there is a communication officer of the command of troops who is responsible for

the whole of the military communications of the fortress. He is known as the *Verkehrsvorsteher vom Platz*, and is on the staff of the Governor of the fortress. He is, as a rule, assisted in his duties by a subaltern and a few warrant and non-commissioned officers. All fortress communication officers are under the Inspector of Fortress Communications who, in his turn, is under the Inspector-General of the Military Communication Service.

the whole of the military communications of the fortress. He is known as the *Verkehrsvorsteher vom Platz*, and is on the staff of the Governor of the fortress. He is, as a rule, assisted in his duties by a subaltern and a few warrant and non-commissioned officers. All fortress communication officers are under the Inspector of Fortress Communications who, in his turn, is under the Inspector-General of the Military Communication Service.

The most important of his duties are—the maintenance of the subterranean electrical communications, the training of the personnel for these communications, the supervision of the wireless installations and optical signaling arrangements, the maintenance of the girdle and canal railways within the fortress. These duties are carried out by the Fortress Engineer Officer in those fortresses where there are no communication officers.

The peace establishment of this branch is (1st October, 1912) 7 field officers, 9 lieutenants and 31 warrant and non-commissioned officers.

Volunteer Automobile Corps

A Volunteer Automobile Corps (*Freiwilliges Automobilkorps*) was formed in 1904 under the direction of the German Automobile Club.

The main points in the statutes of the corps are as follows:

- (1) Only bona fide members of the German Automobile Club are at present admitted, by invitation of the President. They join for a period fixed by them.
- (2) The corps includes members of the club who are not necessarily Reserve or Landwehr officers, though preference is given to military authority is of course demanded, whether the member is a retired Landwehr or Reserve officer, or a civilian pure and simple.
- (3) It is at present restricted to Prussia and Bavaria and it is expected that Saxony and Württemberg will gradually join it.
- (4) Each member of the corps must be a German subject, must possess a good motor car of not less than 16 h.p., together with a competent native-born

chauffeur, and must, besides being physically fit, be in possession of an official certificate as a good driver.

- (5.) He must undertake to come up, when called upon, for war service, and in peace time to attend, during a period of 4 consecutive years, at least three outings, not exceeding 10 days each. If a Reserve officer, this exempts him from his annual training.
- (6.) On the 1st November of each year the corps has to send to the Prussian War Ministry a list of members available for the forthcoming year, giving details of persons and machines.
- (7.) The members will be distributed as evenly as possible between Army Corps likely to make use of them.
- (8.) Each member will receive an allowance of 14 15s. 0d per day whilst on duty. This represents 17. for up-keep and 15s for pay.
- (9.) A special uniform has been designed for the corps, consisting of a yellowish khaki tunic and trousers, with red collar and badges, and yellow boots (or gaiters and shoes), the whole being crowned, in full dress, with a somewhat impractical flap hat, of the South African genus, otherwise a cap is worn. An automatic pistol ('08) and a short hunting sword (*Hirschfänger*) are carried. This sword has a scabbard of ivory for superior officers, and of celluloid for the remainder.
- (10.) Prince Waldemar of Prussia has been appointed Chief of the Corps, with the secretary of the Automobile Club as his Chief Staff Officer.

The corps now numbers over 60 members, some 50 of whom are usually present at the Imperial Manoeuvres.

Volunteer Aviation Corps.

The Prussian War Minister has assented to the formation of a Volunteer Aviation Corps on the lines of the Volunteer Automobile Corps, but the corps has not yet been organized (October, 1912).

CHAPTER IX.

THE TRAIN.

PEACE ORGANIZATION

General.—The train was reorganized in 1912 and now consists of two entirely separate branches—(a) the train regiments (*personnel*), (b) the train depôts (*matériel*).

(a.) The Train Regiments (*Abteilungen*).

Organization.—On the 1st October, 1912, there were 26 of these regiments (19 Prussian, 2 Saxon, 1 Württemberg and 3 Bavarian). They are merely cadres, from which in war the supply columns and supply parks, the field bakery columns, the bearer companies, the field hospitals, and the remount depôts, are formed. A regiment is allotted in peace time to each Army-Corps, and furnishes in war all the train services for that Corps.

A train regiment is organized in 4 squadrons* and has a peace establishment of—

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| 1st Squadron | 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 145th, 146th, 147th, 148th, 149th, 150th, 151st, 152nd, 153rd, 154th, 155th, 156th, 157th, 158th, 159th, 160th, 161st, 162nd, 163rd, 164th, 165th, 166th, 167th, 168th, 169th, 170th, 171st, 172nd, 173rd, 174th, 175th, 176th, 177th, 178th, 179th, 180th, 181st, 182nd, 183rd, 184th, 185th, 186th, 187th, 188th, 189th, 190th, 191st, 192nd, 193rd, 194th, 195th, 196th, 197th, 198th, 199th, 200th, 201st, 202nd, 203rd, 204th, 205th, 206th, 207th, 208th, 209th, 210th, 211st, 212nd, 213th, 214th, 215th, 216th, 217th, 218th, 219th, 220th, 221st, 222nd, 223rd, 224th, 225th, 226th, 227th, 228th, 229th, 230th, 231st, 232nd, 233rd, 234th, 235th, 236th, 237th, 238th, 239th, 240th, 241st, 242nd, 243rd, 244th, 245th, 246th, 247th, 248th, 249th, 250th, 251st, 252nd, 253rd, 254th, 255th, 256th, 257th, 258th, 259th, 260th, 261st, 262nd, 263rd, 264th, 265th, 266th, 267th, 268th, 269th, 270th, 271st, 272nd, 273rd, 274th, 275th, 276th, 277th, 278th, 279th, 280th, 281st, 282nd, 283rd, 284th, 285th, 286th, 287th, 288th, 289th, 290th, 291st, 292nd, 293rd, 294th, 295th, 296th, 297th, 298th, 299th, 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Inspector of Train.—The 6 Prussian train commands are under the Inspector of Train at Berlin, who has the rank of brigade commander, and is immediately subordinate to the Emperor (see page 94).

(b.) The Train Depôts.

Organization.—As is the case with the train battalions, one train dépôt is allotted to every Army-Corps. The Prussian train depôts are grouped together into 2 train dépôt directorates (*Diraktionen*), those in their turn being under the Train Dépôt Inspector with the rank of brigade commander. The Train Dépôt Inspector is under the Master of the Ordnance (*Feldzeugmeister*, see page 95).

A train dépôt is commanded by a captain who is assisted by another captain or a subaltern.

No. 1 Train Dépôt Directorate, at Berlin, comprises the train depôts of the Guard, 1st, IInd, IIIrd, Vth, VIth, IXth, XVIIth and XXth Army Corps. No. 2 at Cassel, comprises those of the IVth, VIIth, VIIIth, Xth, XIth, XIVth, XVth, XVIth, XVIIIth and XXth Army Corps.

Peace establishment of the Train. The total peace establishment (1st October, 1913) of the train, including the detachments furnished to other branches for transport purposes is

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| 7,900 officers | |
| 100,000 privates | |
| 1,000 veterinary officers | |
| 1,000 veterinary privates | |
| 1,000 veterinary privates | |
| 1,000 veterinary privates | |
| 1,000 veterinary privates | |
| 1,000 veterinary privates | |
| 1,000 veterinary privates | |
| 1,000 veterinary privates | |

WAR ORGANIZATION

General.—On mobilization the train battalion of each Army-Corps furnishes the following:

- (1.) Drivers and horses for the 1st and 2nd line transport (*Verfechts-ladung*—*transport*) of all field arms.
- (2.) Drivers and horses for the ammunition columns formed by the artillery, and for the gas columns, balloon and airship detachments and bridge trains formed by the technical troops.

- (3.) All actual train units such as supply columns, supply parks, remount depôts, field hospitals, field bakeries and bearer companies.

Train units formed on mobilization. For the formation of the units enumerated in (3) each train battalion, of the peace establishment expands on mobilization for each Army-Corps into—

I Units with Army Corps.

(1.) Two train battalions, each forming three supply columns (*Proviantkolonnen*), three supply parks (*Fuhrparkkolonnen*) (the IInd battalion forms four supply parks, making seven in all), one remount dépôt (*Pferdedepot*), and six field hospitals (*Feldlazaretten*).

(2.) Two field bakeries (*Feldbäckereikolonnen*) and three bearer companies (*Sanitätskompanien*), the last named being attached, one to one division and two to the other.

II Line of Communication Units.

(1.) Three field train companies (*Feldtrankompagnien*) for the manning of the line of communication dépôt supply park (*Magazin-Fuhrparkkolonnen*), or of any supply parks formed specially for each Army.

(2.) Six line of communication supply parks (*Etappen-Fuhrparkkolonnen*), of which four or five remain at the place of mobilization until further orders.

(3.) A line of communication auxiliary bakery detachment (*Etappen-Hilfsbäckereiabteilung*) to supplement the line of communication bakery column.

Certain train battalions of the peace establishment are also detailed to form on mobilization mobile hospitals, remount depôts, supply columns, remount depôts, and train columns for the advance depôts (*Fortgeschrittenes Depot*) and line of communication telegraph detachments (*Etappen-Telegraphendirektionen*).

All the above units (II) come under the orders of the Inspector of Communications of each Army.

III Reserve Units.

One Reserve train battalion for the Reserve division formed by the Army-Corps which forms 2 supply columns, (1636)

3 supply parks, 1 reserve bakery column with abattoir and 1 reserve field hospital.

IV. *Depôt Units.*

One *depôt* train battalion (*Train Escadronbattillon*) of 3 companies, a detachment of artificers (*Handwerkerabteilung*) and a central remount *depôt*. This battalion is responsible for the supply of equipment, personnel and horses to the train units of its own Army Corps of the Field Army.

Organization of train units. The train units mentioned in the preceding paragraph are organized as follows:

Supply Column (*Proviantkolonne*)*

There are three kinds of supply column, viz. (a) the 4-horsed, old pattern, (b) the 4-horsed, new pattern, and (c) the 2-horsed.

(a.) The 4-horsed supply column, old pattern, is organized in 2 sections. No. 1 Section consists of 2 subsections (*Sektionen*) each of 6 supply wagons and 2 reserve wagons. No. 2 consists of 2 subsections as above and 1 subsection of 3 supply wagons. Total 39 wagons.

(b.) and (c.) are organized identically in 2 sections (each consisting of 3 subsections of 6 supply wagons and 2 reserve of 2 squadron luggage wagons. Total 39 wagons.

The supply columns are numbered in each battalion, thus 1st Supply Column, III Army Corps; and the 6 together carry about 4 days' rations for the Army Corps.

On the wagons is carried a small proportion of shovels, pickaxes, and hatchets.

Supply Park (*Fuhrparkkolonne*)*

A supply park is organized in 2 sections each of 3 subsections. Each subsection consists of 10 2-horsed luggage wagons. A subsection consists of ten 2-horsed and 4 additional wagons (*Platzwagen*). Total 69 wagons.

A supply park is numbered as above, and can carry about 1 day's food for the Army Corps, or for 14 days' food for the 3 divisions of the Army Corps.

* See page 55 for details.

On the wagons is carried a small proportion of shovels, pickaxes, and hatchets.

Remount *Depôt* (*Pferdedepôt*)

A remount *depôt* is organized in 2 sections and a reserve. The transport consists of one 2-horsed squadron luggage wagon and one 4-horsed forage wagon on which are carried a few shovels, pickaxes and hatchets.

For the war establishment (see page 54)

Field Bakery Column (*Feldbackereikolonne*)

A field (or Reserve) bakery column is organized in two sections, each of three subsections (*Sektionen*). A subsection consists of two 4-horsed bakery wagons and two 2-horsed store wagons. There is one 4-horsed reserve wagon. Total 25 wagons (see page 54).

In one day one column can bake sufficient bread for one division (2 divisions if the column has to move during the day).

Field Hospital (*Feldlazarett*)

See page 206

Bearer Company (*Sanitätskompagnie*)

See page 206

Field Train Company (*Feldtrainkompagnie*)

This unit provides the personnel required for manning the *depôt* supply parks (*Abgaben Fuhrparkkolonnen*) which are improvised in the concentration area.

Line of Communication Supply Park (*Etappen-Fuhrparkkolonne*)

This is identical in strength and organization with the supply park described above.

Line of Communication Auxiliary Bakery Detachment (*Etappen-Hilfsbackerabteilung*)

This improvised unit has no fixed establishment or organization.

Uniform. For rules as to the wearing of the "dark blue" and
 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180 185 190 195 200 205 210 215 220 225 230 235 240 245 250 255 260 265 270 275 280 285 290 295 300 305 310 315 320 325 330 335 340 345 350 355 360 365 370 375 380 385 390 395 400 405 410 415 420 425 430 435 440 445 450 455 460 465 470 475 480 485 490 495 500 505 510 515 520 525 530 535 540 545 550 555 560 565 570 575 580 585 590 595 600 605 610 615 620 625 630 635 640 645 650 655 660 665 670 675 680 685 690 695 700 705 710 715 720 725 730 735 740 745 750 755 760 765 770 775 780 785 790 795 800 805 810 815 820 825 830 835 840 845 850 855 860 865 870 875 880 885 890 895 900 905 910 915 920 925 930 935 940 945 950 955 960 965 970 975 980 985 990 995 1000 1005 1010 1015 1020 1025 1030 1035 1040 1045 1050 1055 1060 1065 1070 1075 1080 1085 1090 1095 1100 1105 1110 1115 1120 1125 1130 1135 1140 1145 1150 1155 1160 1165 1170 1175 1180 1185 1190 1195 1200 1205 1210 1215 1220 1225 1230 1235 1240 1245 1250 1255 1260 1265 1270 1275 1280 1285 1290 1295 1300 1305 1310 1315 1320 1325 1330 1335 1340 1345 1350 1355 1360 1365 1370 1375 1380 1385 1390 1395 1400 1405 1410 1415 1420 1425 1430 1435 1440 1445 1450 1455 1460 1465 1470 1475 1480 1485 1490 1495 1500 1505 1510 1515 1520 1525 1530 1535 1540 1545 1550 1555 1560 1565 1570 1575 1580 1585 1590 1595 1600 1605 1610 1615 1620 1625 1630 1635 1640 1645 1650 1655 1660 1665 1670 1675 1680 1685 1690 1695 1700 1705 1710 1715 1720 1725 1730 1735 1740 1745 1750 1755 1760 1765 1770 1775 1780 1785 1790 1795 1800 1805 1810 1815 1820 1825 1830 1835 1840 1845 1850 1855 1860 1865 1870 1875 1880 1885 1890 1895 1900 1905 1910 1915 1920 1925 1930 1935 1940 1945 1950 1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075 2080 2085 2090 2095 2100 2105 2110 2115 2120 2125 2130 2135 2140 2145 2150 2155 2160 2165 2170 2175 2180 2185 2190 2195 2200 2205 2210 2215 2220 2225 2230 2235 2240 2245 2250 2255 2260 2265 2270 2275 2280 2285 2290 2295 2300 2305 2310 2315 2320 2325 2330 2335 2340 2345 2350 2355 2360 2365 2370 2375 2380 2385 2390 2395 2400 2405 2410 2415 2420 2425 2430 2435 2440 2445 2450 2455 2460 2465 2470 2475 2480 2485 2490 2495 2500 2505 2510 2515 2520 2525 2530 2535 2540 2545 2550 2555 2560 2565 2570 2575 2580 2585 2590 2595 2600 2605 2610 2615 2620 2625 2630 2635 2640 2645 2650 2655 2660 2665 2670 2675 2680 2685 2690 2695 2700 2705 2710 2715 2720 2725 2730 2735 2740 2745 2750 2755 2760 2765 2770 2775 2780 2785 2790 2795 2800 2805 2810 2815 2820 2825 2830 2835 2840 2845 2850 2855 2860 2865 2870 2875 2880 2885 2890 2895 2900 2905 2910 2915 2920 2925 2930 2935 2940 2945 2950 2955 2960 2965 2970 2975 2980 2985 2990 2995 3000 3005 3010 3015 3020 3025 3030 3035 3040 3045 3050 3055 3060 3065 3070 3075 3080 3085 3090 3095 3100 3105 3110 3115 3120 3125 3130 3135 3140 3145 3150 3155 3160 3165 3170 3175 3180 3185 3190 3195 3200 3205 3210 3215 3220 3225 3230 3235 3240 3245 3250 3255 3260 3265 3270 3275 3280 3285 3290 3295 3300 3305 3310 3315 3320 3325 3330 3335 3340 3345 3350 3355 3360 3365 3370 3375 3380 3385 3390 3395 3400 3405 3410 3415 3420 3425 3430 3435 3440 3445 3450 3455 3460 3465 3470 3475 3480 3485 3490 3495 3500 3505 3510 3515 3520 3525 3530 3535 3540 3545 3550 3555 3560 3565 3570 3575 3580 3585 3590 3595 3600 3605 3610 3615 3620 3625 3630 3635 3640 3645 3650 3655 3660 3665 3670 3675 3680 3685 3690 3695 3700 3705 3710 3715 3720 3725 3730 3735 3740 3745 3750 3755 3760 3765 3770 3775 3780 3785 3790 3795 3800 3805 3810 3815 3820 3825 3830 3835 3840 3845 3850 3855 3860 3865 3870 3875 3880 3885 3890 3895 3900 3905 3910 3915 3920 3925 3930 3935 3940 3945 3950 3955 3960 3965 3970 3975 3980 3985 3990 3995 4000 4005 4010 4015 4020 4025 4030 4035 4040 4045 4050 4055 4060 4065 4070 4075 4080 4085 4090 4095 4100 4105 4110 4115 4120 4125 4130 4135 4140 4145 4150 4155 4160 4165 4170 4175 4180 4185 4190 4195 4200 4205 4210 4215 4220 4225 4230 4235 4240 4245 4250 4255 4260 4265 4270 4275 4280 4285 4290

The *trigona* form (see Plates 10, 15 & 16).

FRANC.—Dark blue tunic with light blue collar, cuffs and shoulder straps. Saxons, light blue with black collar and cuffs, and light blue shoulder straps, piped scarlet. The number of the battalion on the

Luteola. Grey, with light blue collar patches
Zinnia. Light blue flowers.

1. 3-dress. Black polished leather helmet with white plume for

war Battalion back for remainder except the Saxons (12th and 19th Battalions) which has a spiked helmet and a bayonet.

Put the tape on the back of the head and fasten it.

Strategy and Tactics — Bader, expand the NATO train battalions, which are

Bells. White, except the Saxon train battalions, which have

Boots.—Mounted man, knee; dismounted, short. Welking on

1. *Field Service Inform.* (see Plates 24, 26, 28, 29, 42 and 46).

The same is the substance of the other try (see page 14th) with
the following results:

Tweed. Scarf, piping on front and skirt.
The collar cuffs (Swedish) and shoulder straps are edged with

g). b — the shoulder strap bearing the number of the Army-Corps

on count and off, and no distinctive mark on the shoulder strap).
Dk. warts-metal buttons with crown.

Scarlet piping on the sides & a w.
 & light blue w. It can I grow

Badges of rank See page 144.

CHAPTER X.

MEDICAL AND VETERINARY SERVICES

ARMY MEDICAL SERVICE

(For further details the "Handbook of the Medical Services of Foreign Armies, Part II. Germany, 1908," should be consulted.)

The Army Medical Service in Peace.

General organization.—The Army Medical Service consists of —

- (a) The *Sanitäts-offizierkorps*, or corps of medical officers.
- (b) The *Sanitäts-offizierdienstalter*, or retired medical officers holding appointments and medical men serving as one-year volunteers and as surgeons at probation with warrant officer's rank.
- (c) The *Sanitätsmannschaft*, or man especially trained and transferred from combatant units to the *Sanitäts* ^{h. u. p.}
- (d) *Militärkrankenwärter*, or men enlisted direct into the *Sanitätskorps*.
- (e) *Krankenträger*, or stretcher bearers of regiments, establishments.
- (f) Apothecary officials.
- (g) Quartermaster officials.
- (h) Army nursing sisters.

Director-General.—The Army Medical Service is placed under a director-general (*Generallieutenant*), ranking as a lieutenant-general or major-general, who is also director of the Army Medical School (*Kaiser Wilhelms Akademie für das Militärische Bildungswesen*)* Berlin, and head of the Medical Section of the War Ministry.

¹¹ See page 212. "Military Resources of the German Empire, 1914."

Medical inspectors.—Under the director-general, there are five (Prussian) medical inspectors (*Obergeneralarzt und Sanitäts-Inspekteur*). The five medical inspections are situated as follows:

- No. 1 at Posen for the IInd, IIInd, Vth and VIth Corps.
- No. 2 at Berlin for the Guard, IVth, IXth and Xth Corps.
- No. 3 at Cassel for the VIIth, VIIIth, XIth and XVIIIth Corps.
- No. 4 at Strassburg for the XIVth, XVth, XVIth and XXth Corps.
- No. 5 at Danzig for the Ist, XVIIth and XXth Corps.

The medical inspection of the Saxon (XIIth and XIXth), Württemberg (XIIIth), and Bavarian (Ist, IIInd and IIIrd) Corps is carried out by their own War Ministries, respectively.

The chief functions of the inspectors are the maintenance of uniformity in regard to the medical examination of recruits, and the inspection of hospitals and field medical equipment.

Medical officers with troops. Each Army-Corps has a principal medical officer called *Korpsarzt*, with the rank of colonel (*Generalarzt*), each division has a principal medical officer called *Divisionarsart*, with the rank of lieutenant-colonel (*Generaloberarzt*).

The *Korpsarzt* is the head of the medical office (*Sanitätsamt*) at Army Corps headquarters; this office deals with all matters connected with the army medical service of the Active Army, Reserve, *Landwehr* and *Landsturm*, and with voluntary and within the Army-Corps district.

The *Divisionarsart* is the administrative medical officer of the division, and the medical and sanitary adviser to the divisional general.

The majority of medical officers below the rank of lieutenant-colonel are attached to regimental units. The medical service in hospitals is mainly carried out by medical officers on command from their regimental units.

Military hospitals. The military hospitals are classified as follows:—(1) Regimental sick and reception rooms (*Kasernenkrankenstuben*) (2) Garrison hospitals (*Garnisons-Innenstellen*), which are provided in all garrisons with a

strength of 600 men or more. (3) auxiliary hospitals (*Platz-Innenstellen*) established as a temporary measure where more accommodation is required, (4) local hospitals (*Orts- und Baracken-Innenstellen*) may be established during mat evolutions or in camps. (5) convalescent homes and institutions for special treatment. Civil hospitals are only rarely made use of for the treatment of soldiers.

Peace establishment. The peace establishment of the medical officers and non-commissioned officers (1st October, 1913):—

| | |
|---------------------------|-------------|
| Medical officers | 9,461 |
| Non-commissioned officers | |
| Under officers | 2,656 |
| Warrant-officers | 2,357 |
| | <hr/> 7,223 |

The number of privates of the medical service dependent on recruitment is as follows:—

The number of men enlisted as *Heilkrankenwärter* is determined by the medical requirements.

The number of hospitals are included in the establishment of the combatant units; roughly it may be stated that each company and battalion has four men and each infantry division has twenty men on average.

The Army Medical Service in War

Administration. The medical service of the Field Army is under a Director-General, who is called the *Chef des Feldsanitätsdienstes*. He belongs to the Imperial Headquarters Staff and controls the medical service in the theatre of operations and on the lines of communication.

With the headquarters of each Army there is a Director of Medical Services (*Generalarzt Inspekteur*), whose official title is *Armeearzt*.

Each Army Corps has a *Generalarzt* as Director of Medical Services, officially known as the *Korpsarzt*. Attached to his staff there is a consulting surgeon, appointed by the Emperor from among the eminent civil surgeons, who receives military medical rank while holding this appointment.

Each division has a *Heilkrankenwärter* as administrative medical officer.

The Inspector-General of Lines of Communication has no principal medical officer on his staff, medical questions being referred to the Director-General.

Each line of communication has a Deputy Director of Medical Services, called the *Etappenarzt*. He is under the orders of the Inspector of Communications and also of the Director-General. Attached to his staff is a consulting sanitary officer, who receives military medical rank while so employed.

Under the *Etappenarzt* there is a Director of Clearing Hospitals (*Kriegsplatzarzt* director) for each Army-Corps served by the line of communication.

General organization. Field organization is divided into three zones.

I.—The zone of the Field Army (*Operationsgebiet*).

II.—The zone of the Lines of Communication (*Etappengebiet*).

III.—The zone of the Home territory (*Heimatgebiet*).

I. In the zone of the Field Army the following are the recognized forms of the medical service:

(i) The regimental medical service.

(ii) Bearer companies.

(iii) Field hospitals.

II. On the Lines of Communication the medical units are:

(i) Clearing hospitals.

(ii) Communication hospitals.

(iii) Units for the distribution of patients.

(iv) Units for providing medical stores.

(v) Voluntary aid units.

III. In the Home territory the medical units are—

(i) Reserve or base hospitals.

(ii) Central information bureau for sick and wounded.

(iii) Voluntary aid units.

I.—IN THE ZONE OF THE FIELD ARMY

(1) The Regimental Medical Service.

Each infantry or *Regiment* has two medical officers, four men of the medical service and 16 stretcher bearers, the

latter are specially trained to use of the medical officers, are permanent and wear a Red Cross ~~insignia~~. In addition to the medical officers, a detachment of stretcher bearers are employed when required as "auxiliary stretcher bearers," they wear a red arm band. In other arms of the service there are only auxiliary stretcher bearers.

SCALE OF MEDICAL PERSONNEL WITH SOME OF THE UNITS OF THE FIELD ARMY

| | Regimental Medical Service | Bearer Company | Field Hospital | Clearing Hospital | Communication Hospital | Unit for Distribution of Patients | Unit for Providing Medical Stores | Voluntary Aid Unit | Reserve or Base Hospital | Central Information Bureau for Sick and Wounded |
|-------------------|----------------------------|----------------|----------------|-------------------|------------------------|-----------------------------------|-----------------------------------|--------------------|--------------------------|-------------------------------------------------|
| Medical Officers | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Medical Sergeants | 4 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Medical Privates | 24 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |

(2) The Bearer Company

Organization.—Bearer companies (*Sanitätskompanien*) are attached to the divisions and are numbered consecutively in the Army Corps to which the division belongs. A bearer company is organized in two bearer sections, with the medical or dressing station section attached.

The two bearer sections have the following personnel:

| | Bearer Section | Medical or Dressing Station Section |
|-------------------|----------------|-------------------------------------|
| Medical Officers | 1 | 1 |
| Medical Sergeants | 1 | 1 |
| Medical Privates | 16 | 16 |

A detachment of bearers from the ranks and auxiliary stretcher bearers is attached to

1 sergeant major
1 staff-sergeant
12 under-officers
17 senior corporals (one is a specialist)
206 privates
17 medical orderlies
26 medical orderlies (including 10 who are also drivers and messengers)

Stretcher bearers 100

The total war strength is 3 officers, 1 medical officer, 2 officials, 296 non-commissioned officers and men, 29 horses, and 13 vehicles.

Attached to the bearer company, but not subordinate to its commander, are the following medical officers:

1 major, senior medical officer (*Chefarzt*)
2 captains
6 Lieutenants

When a dressing station is to be formed the top commissioned officers and men of the medical service are placed at the disposal of the senior medical officer.

Transport. The transport consists of eight 2-horse wagons, each with seven to nine stretchers and a special table for the wounded, and a special ambulance wagon for the transport of the wounded. In addition one 2-horse supply wagon. A 2-horse field kitchen will be provided if available.

Armament.—The lance-corporals and privates, the senior personnel are armed with revolvers. There are also carbines carried with the company.

(iii.) The Field Hospital.

Organization.—Every Army Corps has 18 field hospitals (*Feldlazaretten*), each of which is intended to accommodate 200 wounded and is divisible into two sections. Their function is to take over wounded from the dressing stations till they can be evacuated.

The personnel consists of—

1 major senior medical officer
1 captain
4 Lieutenants
1 physician

* Exclusive of field kitchen (see under Transport).

2 medical transporters.
5 under-officers
1 senior corporal
1 sergeant major
6 medical orderlies
14 senior orderlies

commissioned officers and men from the train (including 11 drivers and 9 stables).

The total war strength is—nine medical officers and officials, 52 other ranks, 39 horses and 9 vehicles.

Transport. The transport consists of one 2-horse ambulance wagon, two 2-horse medical and surgical store wagons, one 2-horse baggage wagon, one 2-horse hospital equipment wagon, one 2-horse office wagon, one 2-horse store wagon, and one store wagon. The baggage wagon and two equipment wagons; the remaining vehicles are allocated to the medical service.

Armament. The total armament consists of seven carbines.

II.—ON THE LINES OF COMMUNICATION

(1.) Clearing Hospitals.

The clearing hospital (*Kriegslazarett*) does not exist as a fully equipped unit, but is formed as required by the clearing hospital detachment (*Kriegslazarettabteilung*), one detachment being mobilized for each Army Corps. The personnel is derived from the five first reserve, and also from civil and voluntary aid sources. Its function is to take over the wounded in the field hospitals till they can be evacuated.

The total war strength of a detachment is—29 medical officers and officials and 95 other ranks.

In addition, personnel provided by voluntary aid societies may be attached for duty.

The equipment is obtained in part from the field hospitals which has been relieved, in part from the depot of medical stores on the line of communication, and in part by local requisition.

(ii.) Line of Communication Hospitals.

These hospitals (*Etappenlazaretten*), which take the place of our stationary hospitals, are opened as required at important points on the lines of communication. A medical

officer of the active or Reserve list is placed in command. There is no fixed establishment. The personnel and equipment is obtained from the depot of medical stores or locally.

Attached to these hospitals there is usually a section for mild cases of injury or illness (light cases) and sometimes, also, a section for infectious diseases (Seuchheitsstation).

(a) Units for the Distribution of Patients, Sick and wounded transport detachments (Kranken- und Verwundeten-Transportabteilungen).—These units consist of:

- 8 medical officers and officials.
- 23 other ranks (including 8 from the train).

Personnel from voluntary aid societies may replace men of the Regular army.

One of these units is mobilized for each line of communication, and is usually attached to a fixed ambulance depot at a fixed station. It is not a fixed unit, but consists of the personnel and material which may be required for the transport of sick and wounded by land, rail or water. The unit also has to collect or arrange with the proper authority the means of transport by road, rail or water for convoys of wounded.

(b) Ambulance trains (Kranken- und Verwundeten-Züge).—These trains are mobilized as units and detailed for duty. They consist of a train of ambulances, a train of medical stores, and a train of medical personnel.

- 5 medical officers and officials.
- 42 other ranks (including 5 from the train).
- 34 carriages each taking 12 lying down, 236 lying down.
- 1 officers carriage taking 8 lying down.
- 5 carriages for the personnel and the train.
- and office and dispensary.
- 2 kitchen.
- 3 cars for heating water.
- 2 " " supplies.
- 1 car for equipment.
- 1 " baggage.

Auxiliary ambulance trains (Hilfsambulanzen).—These are formed by the mobilization of the personnel and equipment of the medical stores depot. They consist of 12 ambulances and are allowed for every 100 sick.

(c) Ordinary trains used for the conveyance of wounded (Kranken- und Verwundeten-Züge).—Medical stores for the wounded are provided from voluntary aid societies. A small military escort is usually detailed to take charge of the train.

Hospital ships (Kranken- und Verwundeten-Schiffe).—These are used for the conveyance of wounded. A small medical personnel is detailed to take charge.

(v) Units for providing Medical Stores.

Advanced depot of Medical Stores (Etiappensanitäts-Depot).—This unit is formed by the mobilization of the personnel and equipment of the medical stores depot. It is used to replenish the medical stores and equipment to replenish those of medical units. It also stores fittings required for the transport of sick and wounded.

A unit of medical stores is detailed to take charge of the following composition:—

| | |
|----|---------------------------------|
| 1 | Medical officers and officials. |
| 2 | Medical stores. |
| 3 | Medical personnel. |
| 4 | Medical equipment. |
| 5 | Medical supplies. |
| 6 | Medical transport. |
| 7 | Medical baggage. |
| 8 | Medical transport. |
| 9 | Medical baggage. |
| 10 | Medical transport. |
| 11 | Medical baggage. |
| 12 | Medical transport. |
| 13 | Medical baggage. |
| 14 | Medical transport. |
| 15 | Medical baggage. |
| 16 | Medical transport. |
| 17 | Medical baggage. |
| 18 | Medical transport. |
| 19 | Medical baggage. |
| 20 | Medical transport. |
| 21 | Medical baggage. |
| 22 | Medical transport. |
| 23 | Medical baggage. |
| 24 | Medical transport. |
| 25 | Medical baggage. |
| 26 | Medical transport. |
| 27 | Medical baggage. |
| 28 | Medical transport. |
| 29 | Medical baggage. |
| 30 | Medical transport. |

A unit of medical stores is detailed to take charge of the following composition:—

Each field Renault Ray wagon has -

- 1 medical ambulance
- 1 mechanic
- 2 men from the train
- 1 rifle and 2 draught horses

Each mobile water sterilizer has -

- 1 private locomotive
- 2 men from the train
- 2 draught horses

(v) Voluntary Aid Units

Voluntary aid (*Freiwillige Krankenpflege*) may, in very exceptional circumstances, be employed to assist a medical unit in the zone of the Field Army; its normal sphere of action is limited to the lines of communication and the Home territory. Voluntary aid is not permitted to act independently, but is subordinate to the regular Army Medical Service and subject to military law.

At the head of all voluntary aid is the Imperial Commissioner (*Imperialische Kommissarin im Militärsanitätsdienst*), who is appointed to the Imperial Headquarters and under whom is the Imperial Headquarters at the headquarters of each Army, a delegate for the line of communication (*Einpendelquartier*); a delegate with each clearing hospital and voluntary aid unit.

Voluntary aid personnel on the line of communication is organized as hospital companies, sick convoy companies, depot companies and depot detachments.

In every case voluntary aid personnel is directly subordinate to its delegate, who in turn is under the orders of the medical officer of the Regular Army.

II. IN THE HOME TERRITORY

(1) Reserve Hospitals

Large reserve hospitals in the Home territory become reserve hospitals (*Reserve Lazaretten*). The accommodation may be increased by converting barracks and public buildings into branch hospitals, but no tent hospitals may be erected. Equipment is maintained in mobilization

stores for the conversion of certain buildings into reserve hospitals, so that increased hospital accommodation may be ready by the 10th day of mobilization.

(u) Central Information Bureau.

A central information bureau (*Zentralnachrichtsbureau*) for sick and wounded is opened at the Prussian War Ministry, Berlin, for the purpose of preparing casualty lists, affording information to relatives of soldiers, collecting information as to prisoners, &c.

The personnel consists of -

- 8 officers and officials
- 12 secretaries
- 139 clerks and messengers
- 3 reserve battalions of volunteers

(ü) Voluntary Aid Units.

In the Home territory, voluntary aid works on the same principle as on the lines of communication.

Voluntary aid depots for the reception of gifts for the troops will also be opened at the headquarters of each Army.

Uniform. For the Home territory -

(1) Dark Blue Uniform (see Plates II and IV)

The uniform of the dark blue units with scarlet piping. The number of the unit is worn on the left sleeve in red (in the case of officers, the rank is worn).

The uniform of the dark blue units with scarlet piping and scarlet piping. Bavarian dark blue uniform.

The uniform of the dark blue units with scarlet piping and scarlet piping.

The uniform of the dark blue units with scarlet piping and scarlet piping.

The uniform of the dark blue units with scarlet piping and scarlet piping.

The uniform of the dark blue units with scarlet piping and scarlet piping.

The uniform of the dark blue units with scarlet piping and scarlet piping.

Yankee
solar po
cells and
- P
Badges of rank

The officers are chiefly officers of the Army who have returned as aviators. In addition, they are required to have completed a course of 3 months at the schools for

Gendarmes at Lüneburg or Walsen. They act merely in the capacity of inspectors of their districts or brigades, and are quite independent of the *Landjäger*, who give them orders direct to the *Gendarmes* without reference to the officers. The duty of the officers is to supervise the conduct of the men of the *Gendarmes*, and to see that the duties required of them by the civil authorities are carried out.

The men of the corps consist of 40 clerks, 390 sergeant-majors (who have charge of squads into which the several districts are divided, 1,870 mounted and 2,700 dismounted police. They are under the direct orders of the civil authorities. They are selected from non-commissioned officers of the Army and must fulfil the following conditions:

- (i) Have served for 9 years.
- (ii) Have excellent characters.
- (iii) Must undergo two slight examinations.
- (iv) Must serve a period of probation.

They are under military law, being subservient to their own officers and not to the commanders of the Army-Corps districts in which they may be serving; they rank as non-commissioned officers, and salute Army officers.

The Prussian system exists in the smaller States.

Uniform. The uniform (see Plate 12) is similar to that of the infantry: dark green tunic with light blue facings and the number of the brigade in scarlet on the shoulder straps.

Armament.—Dismounted *Gendarmes* carry a carbine and sword-bayonet; mounted *Gendarmes* a sword and a revolver.

Bavaria. The Bavarian Corps, with headquarters at Munich, is under a major-general, and is divided into eight divisions (*Abteilungen*), which are again sub-divided into 334 stations. Nineteen officers and 3,000 *Gendarmes* belong to the corps. There is a school at Munich.

Saxony.—The Saxon Corps is an exception to the others; it is not subordinate to the civil authorities. Its officers are called inspectors of *Gendarmes*, and the men rank as *Gendarmes*, *Brigadiers* and county *Gendarmes*.

Württemberg. In Württemberg the corps is called the *Landjäger Corps*; it is under a colonel, with headquarters at Stuttgart, and is spread over three districts, each under

an officer. The men are classed as *Landjäger* of the 1st or 2nd class.

Alsace-Lorraine.—There is a special brigade for the *Reichsland*.

WAR ORGANIZATION

When mobilization is ordered, the *Landjäger* form the mounted *Land Police* (*Feldgendarmes*), Reserve non-commissioned officers forming a *Landjäger* to make up the numbers required.

Each Army-Corps mobilizes 2 detachments—

- (a.) For the headquarters of the Army-Corps

1 captain
1 sergeant-major
21 field police

- (b.) For the immediate communication of the Army-Corps—

1 captain
1 sergeant-major
21 field police

It is necessary that the Imperial Headquarters and the regional headquarters be furnished with detachments.

They are immediately equipped in the same way as the Prussian territorial police, and wear a gorget of white metal, on which is an eagle, round the neck and over the back of cloak.

Their duties are to carry out the police duty with the Army at the times of mobilization.

2. King's Messengers.

Peace organization. The Corps of King's Messengers or Couriers (*Königs-Boten*) was created by Frederick II. in 1760, and was intended to provide guards at the courts of the various German princes and the courts of princes, and King's Messengers for the Imperial Headquarters. It was in 1817 that the corps was first incorporated into the Imperial service. An order promulgated in 1843 assigned the rank of *Landjäger* to the members of the corps.

The King's Messengers are under the Inspector of J. u. and Schützen, and consist of

- 3 *oberjäger* (1 lieutenant and 2 2nd lieutenants)
7 *Feldjäger* (11 lieutenants and 64 2nd lieutenants).

They are recruited from junior officials of the Forest Department, who must have served as one year volunteers in a rifle battalion and have qualified as Reserve officers.

In time of peace a portion of them perform the duties of King's Messengers, the remainder are detailed under arms.

War organization.—On mobilization the Corps is distributed as follows:—

| | | | | |
|------------------------|-----|-----|-----|--------------------|
| Berlin | ... | ... | ... | 1 <i>Oberjäger</i> |
| Imperial Headquarters | | | | 1 <i>Feldjäger</i> |
| | | | | 1 <i>Oberjäger</i> |
| Each Army Headquarters | ... | | | 9 <i>Feldjäger</i> |
| | | | | 3 <i>Feldjäger</i> |

Those not employed as above are distributed along the front.

They are employed in carrying important orders and despatches.

Uniform.—Dark-green tunic with scarlet facings, lace, and buttons, and black leather helmet with gilt ornaments.

3. Castle and Body Guards.

These corps consist of—

- (i) The Prussian Bodyguard Police (*Leibpöliarmie*),
- (ii) The Prussian Castle Guard (*Schlössergarde-Kompagnie*),
- (iii) The Bavarian Bodyguard of Halbardiers (*Leibgarde der Halberdiers*),
- (iv) The Württemberg Castle Guard (*Schlössergarde-Kompagnie*),
- (v) The Hessian Non-commissioned Officer Guard Company (*Garde-Unterschwärmer-Kompagnie*),
- (vi) The Saxe-Weimar Bodyguard Hussars (*Leibhusaren* or *Gardehusaren*).

(i) THE PRUSSIAN BODYGUARD POLICE.

Organization.—The *Leibpöliarmie* forms the personal escort of the Emperor, belongs to his headquarters, and is under a general officer (*General adjutant*—personal aide-de-camp). It is divided into two sections, each under a major detailed for 2 years, from the cavalry. The 1st *Section* only would probably take the field, it numbers about 24 men.

Uniform. The uniform is dark green with light blue facings, the royal monogram is borne on the shoulder cords. A cuirassier helmet—white metal with gilt eagle—is worn. On gala occasions a white tunic with crimson facings is worn by the 2nd section.

(ii) THE PRUSSIAN CASTLE GUARD.

Organization. The *Schlössergarde* is a company of guards the royal castles. It is under the command of a lieutenant-colonel (one of the Emperor's aides-de-camp), and consists of 1 captain and 69 reliable long-service non-commissioned officers. Fifteen officers are attached to the company for duty.

Uniform.—The uniform is that worn by the Lifeguard Battalion of Frederick II. Blue tunic with white bars across the front, scarlet facings and white shoulder cords with the royal monogram in yellow. Yellow breeches, black dress and white wig, with white breeches and black gaiters, for gala occasions. A plain blue helmet with facings as above and black leather helmet with white metal fittings when on ordinary duty.

(iii) THE BAVARIAN BODYGUARD OF HALBERDIERS.

Organization. The corps constitutes the personal guard of the King. It is under a general officer, as captain-general, and consists of 14 officers, 1 medical officer and 92 men.

The old ranks of 1700 are retained and the officers consist of—

- The captain-general (a general of infantry)
The 1st lieutenant (a lieutenant-general)
The 2nd lieutenant (a major-general)
The cornet (a lieutenant-colonel)
The *Erstkapitän* (a major)

- An adjutant (a captain)
 1 1st brigadiers (lieutenants)
 4 under brigadiers (2nd lieutenants).

Uniform. Light blue tunic with black facings, with metal helmet with gilt fittings for ordinary duty. For gala occasions a white tunic with light blue skirt and black facings, the cross of Saint Hubert on the breast and a special white-metal helmet with a gilt lion on the top are worn.

(iv) WÜRTTEMBERG CASTLE GUARD.

The functions of the guard are the same as those of the Prussian *Schlossgarde-Kompagnie*. It is under a lieutenant-colonel (one of the *des-de-camp* to the King), and consists of 30 non-commissioned officers, with an attached officer.

The uniform is similar to that of the Prussian Castle Guard, but a three-cornered hat is worn.

(v.) THE HESSIAN NON-COMMISSIONED OFFICER GUARD.

This guard is attached to the Prussian *Schlossgarde-Kompagnie* and is stationed at Cassel. It constitutes the bodyguard of the Grand Duke of Hesse. It is under the orders of an aide-de-camp of the duke, and consists of 47 non-commissioned officers.

The uniform is a blue lancer tunic with white facings, scarlet collar and white shoulder straps. The head-dress is the usual dragoon helmet.

(vi) THE SAXE-WEIMAR BODYGUARD HUSARS.

These are analogous to the Prussian Bodyguard Police and are called as a rule, *Ordonnanz-Gendarmen* (Orderly Police). They wear a scarlet hussar uniform with dark blue facings.

4. Staff Orderlies.

Staff orderlies (*Stabs-ordonnansen*) are found by the Prussian Army, Cavalry, Artillery, Engineers, Army Corps, Division or Brigade, to which the staff they are attached belongs. Their duties are pure and simple

orderly work. They are allotted in the proportion of one to each staff.

- A non-commissioned officer to an Army-Corps Staff
 A lance-corporal to a Divisional Staff
 A private to a Brigade Staff

Cavalry orderlies may be allotted to commanders of regiments.

They may remain for an extended period with the head of the staff, and are attached to the staff of the commander of the division, the commander of the corps, the commander of the army, and the commander of the empire.

The staff orderlies, which the Staff Guards wear, are of a dark green with light blue collar and cuffs and scarlet epaulettes. The number of the formation to which they belong is carried on the shoulder strap or epaulet.

5. Military Veterans' Societies.

The *Militärveteranen* are benefit societies composed of ex-soldiers (so-called veterans), with the object of encouraging them to take part in festivities, partly historical, and partly military, in their nature, marching past general officers command in chief with the *Pommes-schritt* and drawn swords, attired in plain clothes and silk hats, and the scarves and orders of their societies. When the Emperor attends the annual inspections of an Army Corps they line the streets. They are most effective in keeping up the patriotism and loyalty of the population.

CHAPTER XII.

INTENDANCE AND SUPPLY

Personnel. The personnel of the Intendancy (*Intendantur*) is divided into the following classes:

Higher officials from—

1. Officers with reserve service.
2. Reserve officers with the necessary qualifications.
3. Retired officers (for clothing).
4. Counsellors of Justice.

Lower officials from—

1. Soldiers who have a first class educational certificate from a classical or modern school.
2. Non-commissioned officers of 12 years' service with excellent character and good education.

Clerical staff from—

1. Military candidates with good civil references.

For all classes there are courses, examinations and probationary periods.

The higher officials of the Intendancy are classed as military officials, and not as Army officers. (See page 25.)

PLACE OF ORGANIZATION

General. The Intendancy of the Army is controlled by the Army Administration Department of the War Ministry (see page 76). Beyond this essence of the Intendancy system is decentralization, each Army-Corps district having its service and supply administration as a part of the staff of the Army Corps commander.

In addition to the Army-Corps Intendancy, there are district and Military Division Intendancies. Finally, the Ministry of War to carry out Intendancy duties for the whole of Germany, the Imperial German Army, and an Intendancy of German Colonies.

Corps Intendant. The Corps Intendant is the chief of the Intendancy of the Army-Corps. He is a military official with reference to his department after consultation with the

Army-Corps commander. He may report the decision of his general to the Minister of War, and the latter, like the Army-Corps commander, may appeal to the Emperor.

The Corps Intendant, as well as performing the duties of a staff officer, has also the executive powers of a commanding officer over his subordinates, and is represented in each division by a Divisional Intendant.

The Corps Intendant is in charge of Section IV.3 of the Army Corps Staff (Intendant Section, see page 80).

This section is divided into the following subsections:

1. Finance Section (*Kassen-Abteilung*).—General financial work, and the preparation of estimates.
2. Supply Section (*Versorgungs-Abteilung*).—Purchase and administration of rations and forage, and the supervision of supply magazines, feed lakes, supply officers, and preserving factories.
3. Clothing Section (*Beleidungs-Abteilung*).—Supervision of the work carried on by the clothing officials in the Army Corps clothing factories and regimental tailors' shops.*
4. Garrison Administration Section (*Garnisonverwaltungs-Abteilung*).—The acquisition and administration of lands, stores and materials needed for the housing of troops. This section includes the Barrack Construction Department (*Garnison-Bauwesen*), which draws up plans and makes contracts for the erection of all military buildings, except fortifications. The building is actually carried out by civilian contractors under the supervision of the *Militär-Bauwesen*.
5. Hospital Section (*Sanitäts-Abteilung*).—Direction and supervision of hospitals in so far as they are not under the medical authorities, and including questions of invaliding.
6. Army-Corps Pay Office and emergency work.

WAR ORGANIZATION

General.—The immense importance of an efficient supply system in war is thoroughly recognized by the German Government Staff, and close co-operation with the Intendancy is regarded as the only method of attaining such a system.

On mobilization being ordered, the work in the Army Corps districts is divided only between the *Intendantur* proper (*stellvertretende Intendanturen*), while the Intendancy proper

* The military workmen in these factories are the so-called *Heimwehr* (home defence).

station), whence they proceed to the line of communication main depot (*Eliz. penhaupfort*). Here they are sorted and sent to their respective Corps Field Magazines under the direction of the Army Intendant. These magazines are filled by the line of communication supply parks, and either issue to the Corps supply columns and parks, or, in favorable circumstances, to regimental wagons direct.

When the troops cannot live on the country (and it is recognised that, with the immense armies of modern days, this method of supply will be insufficient except during the strategical deployment, and will be altogether impossible when the army is halted or retreating) rations are issued from the regimental wagons. These are filled up in mass, stably by one of the two methods described above, *i.e.*, from the Corps supply parks and columns or direct from field magazines, if they are situated close enough to the troops to permit of it.

Uniform of Military Officials.

Paymasters (see Plates 11 and 12).

Tunic.—The tunic is of dark blue cloth with white edging to velvet collar and cuffs, and white epaulettes.

Shirt.—Grey, with dark blue collar patch.

Trowsers.—Black, with scarlet piping. Bavarian, dark blue with scarlet piping.

Head-dress.—Infantry helmet, firago cap dark blue, with white piping and edging to band.

Coat.—Light grey, with dark blue collar edged with white and white piping.

Footwear.

Intendant.—Same as paymaster, except that the piping is crimson (see Plate 10).

Subsist. officials.—Same as paymasters, except that the piping is scarlet, and there is a fringe to the epaulettes for the superior officials (see Plate 12).

Field Treasury officials.—Same as paymasters, but with collar and cuffs of cloth, yellow buttons, and yellow sash and straps (see Plate 12).

Clothing officials.—Same as field treasury officials, but with scarlet piping and epaulettes grounds (see Plate 1).

Supply officials.—Same as field treasury officials, but with yellow piping and epaulettes grounds (see Plate 12).

Garrison administration officials.—Same as field treasury officials, but with light blue piping and epaulettes grounds (see Plate 12).

Hospital administration officials.—Same as paymasters, but with crimson piping and epaulettes grounds (see Plate 12).

Field officials.—Same as paymasters, but with orange piping and epaulettes grounds.

Officials of the Technical Institution.—Same as paymasters, but with crimson piping and dark grey velvet collars and cuffs.

CHAPTER XIII

TACTICS OF THE THREE ARMS.

Introductory.

The details of drill formations, the system of outposts, &c., are fully dealt with in the various manuals entitled "Education and Training of the German Infantry (Cavalry, Field Artillery, &c.), published by the General Staff. The following chapter will, therefore, only deal with the broad outlines of German tactics based on the official Regulations, the writings of various authorities, and the reports made by British officers who have attended German peace manoeuvres. For a list of works on the subject, which have been translated into English or compiled by the General Staff, see Appendix XI., page 322.

In discussing German tactics it is necessary to realize the special characteristics of their tactics have to a great extent, been evolved to suit the size of their army and the idiosyncrasies of the nation as a whole. It has to be remembered that with an ever-increasing population the size of the army is practically merely one of expense,* while the general spirit of the German Army is one of intense devotion to Emperor and Fatherland, combined with the conviction that no other army in the world could stand up to it for any length of time.

Owing to its numbers, its organization, its discipline, the absolute interrelation of its parts, the elaborateness and thoroughness of its equipment, its government, its spirit, and the strong spirit of the offensive inherent in the whole military machine, the German Army is one of the most formidable fighting machines in the western world.

The keynote of its method is contained in the often

repeated injunction "Forward against the enemy, cost what it may."

The Three Arms.

General. In the German Army it is an immutable law that attack should always be met by counter-attack, and so all officers imbued with this principle that there is a tendency, at any rate at manoeuvres, to deliver what to the critical observer appear to be premature and ill-timed counter-attacks.

As regards the use of reserves, it would appear that, although their Regulations prescribe that the reserve is the commander's most effective weapon for controlling the general course of the action since it "enables him to move, as it were, the centre of gravity of the fight wherever he wishes, to reinforce where he considers necessary, to deal with the fluctuations of the action and, finally, to bring about a decisive result," yet, in practice, the tendency is not so much to reinforce and support an attack as to extend the front with a view to enveloping the hostile flanks.

In general terms it may be said that the tactics of the German Army are simple and uniform, and consequently understood by every individual in the army.

Attack.—There are two important axioms in their Regulations—

- (a.) That as a general rule the front is, within reason, inviolable.
- (b.) "The combination of a frontal and flank attack gives the best prospect of success.

"In order to carry out an enveloping movement successfully, it is essential to contain the enemy in front. For this latter purpose a determined holding attack is the most effective."

The Germans, however, always contemplate making their secondary attack into a decisive one when the main or enveloping attack begins to make itself felt.

There is a tendency, in making flank attacks, to extend the front of an attacking force and even to separate widely

* The cost of the German Army in 1913 was estimated at 1,000 million marks.

1. The German Army in 1913 was estimated at 1,000 million marks.

be made with the force of the attack, or of the
risk of a counter-attack, or of the possibility of a
retreat.

As regards the safety of the attack, the force
must be able to sustain the attack, and must be
able to retreat, if necessary, without being
driven back, or without being forced to
fight on a disadvantageous ground.

A force must also be able to sustain the
attack, and must be able to retreat, if necessary,
without being driven back, or without being
forced to fight on a disadvantageous ground.
The force must also be able to sustain the
attack, and must be able to retreat, if necessary,
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forced to fight on a disadvantageous ground.
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attack, and must be able to retreat, if necessary,
without being driven back, or without being
forced to fight on a disadvantageous ground.

If an attack is decided on rapid action must be taken. The
force must be able to sustain the attack, and must be
able to retreat, if necessary, without being driven
back, or without being forced to fight on a
disadvantageous ground. It may be asked that the enemy will
be able to sustain the attack, and must be able to
retreat, if necessary, without being driven back, or
without being forced to fight on a disadvantageous
ground.

It must, however, be recognized that the advanced troops,
especially the cavalry of the advanced guard, are expected to
sustain the attack, and must be able to retreat, if
necessary, without being driven back, or without being
forced to fight on a disadvantageous ground.

As regards the attack, the force must be able to
sustain the attack, and must be able to retreat, if
necessary, without being driven back, or without being
forced to fight on a disadvantageous ground.

The force must also be able to sustain the
attack, and must be able to retreat, if necessary,
without being driven back, or without being
forced to fight on a disadvantageous ground.

As to the difficulty of getting a well-patrolled skirmishing line

The force must also be able to sustain the
attack, and must be able to retreat, if necessary,
without being driven back, or without being
forced to fight on a disadvantageous ground.

It is, however, to be remembered that the force must be
able to sustain the attack, and must be able to
retreat, if necessary, without being driven back, or
without being forced to fight on a disadvantageous
ground.

The force must also be able to sustain the
attack, and must be able to retreat, if necessary,
without being driven back, or without being
forced to fight on a disadvantageous ground.

Defence. The force must be able to sustain the
attack, and must be able to retreat, if necessary,
without being driven back, or without being
forced to fight on a disadvantageous ground.

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The force must also be able to sustain the
attack, and must be able to retreat, if necessary,
without being driven back, or without being
forced to fight on a disadvantageous ground.

There is now (1919) a distinct tendency to
avoid the use of these variations on a single line of defence.

Stratagems. In a general way, the use of stratagems
is considered as a passing fancy, and is not
generally regarded as a serious matter. It is, however,
a very important part of the art of war, and is
one which should be studied with care.

Machine-guns.—No remarks on German tactics would be complete without reference being made to the importance attached to machine-gun fire. In every infantry brigade there are 12 machine-guns, viz. 3 in the 1st, 3 in the 2nd, and 6 in the 3rd battalions. This proportion is now to be increased to 15 in the 1st, 15 in the 2nd, and 30 in the 3rd battalions. Machine-gun weapons are fully recognized in Germany, and at present are used on the necessity for all ranks to understand their employment (see page 12).

Infantry.

Infantry tactics have altered but little in principle in the last 14 or 15 years, although modifications have of late been introduced as regards extension during the opening phases of an attack.

There are three recognized phases in the attack. The first is the *forming up* or *assembly* (*Aufmarsch*), the deployment (*Entfaltung*), and the extension (*Entwicklung*).

Forming up consists in changing from march formations to formations with a broader front, but still close, such as battalions in column or lines of companies in column of file.

Extension is the distribution of troops in fighting formations in the form of skirmishing lines.

As a rule, forming up takes place some 2,500 yards from the enemy, but this must necessarily depend on the circumstances of terrain, &c.

Skirmish deployment is dependent on hostile fire and varies accordingly, but generally speaking may be said to take place at from 2,000 to 1,500 yards from the enemy's position.

The advance thus takes the form of successive firing lines, supports and reserves, with roughly 300 yards between each. The main endeavour is to keep reserves in position for both attack and defence.

At manoeuvres the original extension now varies from 4 to 6 paces between men, and is sometimes even as much as 10 paces, though the Regulations lay down 2 paces as the normal, and state as a guide that a company at war strength (250) will require 165 yards, and a brigade of six battalions 1,650 yards. But the tendency at present, as shown above, is to increase the original intervals between men.

* This will give 2 machine-guns for 1,000 rifles.

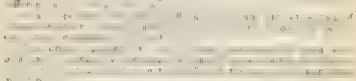
The firing line is gradually increased in density, and since casualties, at any rate at manoeuvres, are not practised, by the time the final fire position, viz. 180 yards or so from the enemy, is reached, the line is a very thick one.

The various advances consist of movements of some 50 to 100 yards, but as they are not often carried out at the double, they can scarcely be termed rushes.

The Regulations are very precise as to the necessity for the provision of covering fire during these movements.

The tendency is to place somewhat rigid and inflexible lines, although the Regulations distinctly contemplate elasticity as is shown in the following:

"The infantry combat often presents the most varied aspect."



From the foregoing it is evident that the German Regulations and our own are not so different in principle as sometimes asserted.

Artillery

Attack. The main principle aimed at in the employment of German artillery is the close support of the infantry at all hazards. Batteries are expected to move up to positions quite close behind the attacking infantry, regardless of the losses to which they expose themselves, using direct fire, and then to follow up their own infantry, as they approach closer and closer to the hostile trenches.

The Regulations state that open and semi-covered positions are most suitable for the attack of moving targets. Covered positions are given credit for mystifying the enemy, for facilitating ammunition supply, and for enabling batteries to preserve their fighting power for decisive periods of the battle. On the other hand, it is pointed out that careful preparation, for which time is essential, and good observing stations are indispensable for the use of such positions.

The spirit of the latest amendments issued in 1911 to the "Instructions for Field Artillery Fire" shows an endeavour to insist more on the use of covered positions in the future.

As regards reserves of artillery, although the Regulations state that—"In the operations of battle, as the general commanding may, at the beginning of the battle, a portion of the artillery is to be held in reserve for the defence of the reserve force."

In the attack on an enemy in position as soon as the infantry come under fire, the task of supporting them becomes the first duty of the artillery. Indeed co-operation with the infantry is the keynote of the German Artillery Regulations and these Regulations are carried out in both the attack and in the defence.

As regards the general officer commanding has informed the commander where the decisive attack is to be made, the latter concentrates the greatest volume of fire on that part of the position, any guns which may have been held in reserve are brought into action. The fire of the heavy artillery, like that of the field guns, is now chiefly directed on the enemy's infantry.

In addition, the attacking infantry is accompanied in its further advance by single batteries. The object of these batteries is to give the troops moral encouragement, and, in case of a repulse at any point, to break the enemy's onset, and form a line behind which the infantry can rally.

Defence. As regards artillery in the defence, its action is guided by the same principles as those already described in the attack, but as stated previously, the German Regulations deal more briefly with the defence than with the attack.

The detailing of guns for special tasks from the onset of the engagement is the chief difference between the tactics of the defence and of the attack in Germany.

The governing principle appears to be to prevent the attacking artillery from gaining superiority of fire.

With advanced guards. - In the allotment of artillery to an advanced guard, there seems to be a tendency to make advanced guards strong in this arm.

General Rohne gives the following as the strength of the artillery of a Division:

For a Division 12 battalions and 12 batteries 3 batteries (one Abteilung), with one regiment of artillery (3 battalions).

For an Army Corps 3 to 6 batteries with 4 to 8 infantry battalions.

As regards the employment of guns with an advanced guard, Captain Culmann of the French General Staff, writing on battles of encounter says, "the tendency of the Germans in opening the engagement is to strike quickly and to strike strongly; the one idea opposes the other, and only the artillery can effect a partial reconciliation between them."

Cavalry

The German ideas as to the tactical employment of cavalry, as laid down in their Regulations, are very much the same as those embodied in our own manuals.

Shock action where the offensive is assumed at the outset, combined, where large bodies of cavalry are concerned, with the co-operation of artillery and machine gun fire, is regarded as the normal mode of fighting in the German cavalry; but the necessity for dismounted action is being more and more recognized, and cavalry is consequently receiving increased training in this subject. It is true that the German cavalry are very much handicapped by their lances in dismounted work, because they cannot carry them on the saddle, but this does not prevent them from employing dismounted action. If, however, three-quarters of the force dismounts, the led horses are rendered more or less immobile.

The desire is to combine fire tactics with mobility, to relay and surprise the enemy, but not to use cavalry, as a rule, as infantry, or to carry out regular attacks in considerable depth. At the same time it is recognised that occasions may arise when it will be found necessary for cavalry to capture positions, e.g. advanced or flank positions, by a dismounted attack, and cavalry are taught to execute this by applying extensions and depths of formation similar to an ordinary infantry attack.

The effect of the *arms blinde* is still considered to be of great importance, and it is maintained that cavalry, coming as a surprise or delivered against shaken ranks, offering under the prolonged strain of a modern battle, will be more successful in the future as

in Germany, it almost entirely relies on reports sent by cavalry are extremely good and accurate. At peace manoeuvres cavalry are allowed to

Artillery.—The paces laid down for field and horse artillery are as for cavalry, but are somewhat reduced in difficult ground and when trotting in column of route. The rate of the trot laid down for the heavy artillery of the Field Army is 250 paces* to the minute, the rate of the walk being 150 paces.

Marching formations. Infantry march in *file* (*Spaltenmarsch*), cavalry in large bodies march in *sections* (*Abtheilungen*) and heavy artillery in column of route. The *column of route* for cavalry is recognised, but is not recommended, and the length of the column being thereby decided.

Great importance is attached to one side of the road always being kept clear during a march, but in certain circumstances, such as when the roads are bad or in very hot weather, troops are allowed to march on either side of the road, leaving the centre clear.

An officer, and a bugler or trumpeter, for the purpose of sounding "clear the road," march at the rear of each company, squadron or battery. This call may only be sounded by order of an officer.

When the road is wide, and is known to be so throughout, the column is shortened, in order to expedite deployment, by allowing infantry to march in *files* (*Spalten*), cavalry units to march side by side, field artillery and machine guns to march in column of sub-sections (*Doppelkolonne*) and horse artillery in battery column.

Order of march.—The order of march of advanced, flank and rear guards, is decided by their commanders as a part of that of the main body by the commander of the force.

The order of march is based upon the manner in which the troops will be employed. The head of the main body consists, normally, of the remainder of the infantry formation which furnishes the infantry of the advanced guard. The field artillery marches as near the head of the column as is consistent with safety. If the artillery column is a long one, companies or sections of infantry may be interpolated in it for its protection. The bulk of the infantry follows the artillery. The normal position of the light ammunition columns of the infantry is in front of their own divisional infantry.

* Two paces is reckoned as 100 paces.

The following distances are allowed between units in rear of a

Appendix XIII, but these are only to be accepted as a guide.

The following distances are allowed between units in rear of a

| | |
|---------------------------------|----------|
| Company or squadron | 10 paces |
| Battalion, battery, machine gun | 20 " |
| Battery ammunition or supply | 25 " |
| Light battery | 20 " |
| Battalion of heavy artillery | 40 " |
| Brigade | 120 " |
| Division | 120 " |

Halts. In addition to a short halt soon after starting to march, halts are made at intervals of 10 to 15 minutes, and at the end of the march. Halts are made on the road in column or they may be made on the edge of long halts. When a halt occurs in the middle of the march, the column is ordered to march down that it will be ordered to march up, and the column is ordered to march down that it will be ordered to march up. The column is ordered to march down that it will be ordered to march up. The column is ordered to march down that it will be ordered to march up.

Night marches.—Not much is said in the German Regulations with respect to night marches. It is pointed out that the column should be ordered to march down that it will be ordered to march up, and the column is ordered to march down that it will be ordered to march up.

the enemy, especially in the presence of aircraft, or if the weather is unfavorable. A plan to be made in advance of the crossing.

The passage of military bridges.—The pioneer officer in charge of the bridge controls and directs the crossing of the columns. Arrangements are taken to ensure a quiet and orderly crossing, and to avoid checks on the first echelon, and to avoid a check on the second echelon. The first echelon is the first column in which the bridge is crossed, and the second echelon is the second column in which the bridge is crossed. The first echelon is the first column in which the bridge is crossed, and the second echelon is the second column in which the bridge is crossed. The first echelon is the first column in which the bridge is crossed, and the second echelon is the second column in which the bridge is crossed.

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Transport and train. Transport is divided into first line transport (*Leichte-transport*) and second line transport (*Schwere-transport*). The details of the transport of units have already been given in the chapters dealing with the transport of units. At the same time, the transport of units is regulated and extended as far as possible.

A transport is a group of transport units, and the number of transport units in a transport is determined by the number of transport units in a transport. The number of transport units in a transport is determined by the number of transport units in a transport. The number of transport units in a transport is determined by the number of transport units in a transport. The number of transport units in a transport is determined by the number of transport units in a transport.

When the transport is in the first line, the first line transport remains with the main body and follows it. The second line transport, assembled in groups, follows the fighting units in the second line of march, as the division to which it belongs and at the same time follows the first line transport. The second line transport follows the first line transport.

A transport is a group of transport units, and the number of transport units in a transport is determined by the number of transport units in a transport. The number of transport units in a transport is determined by the number of transport units in a transport. The number of transport units in a transport is determined by the number of transport units in a transport. The number of transport units in a transport is determined by the number of transport units in a transport.

the first echelon. Corps bridge trains are allotted as required.

When an Army-Corps marches by different roads the whole of the columns and train, or only the first echelon, may be distributed to divisions. When a fight is expected, whole or half ammunition columns, and single field hospitals, may be sent forward as a fighting echelon in front of the 2nd line transport, or right up to the rear of the troops.

Considerations of supply may render it necessary to interpolate supply columns and parks in the columns of march of the fighting troops.

PROTECTION

Protection on the March

Advanced guards.—A mixed force of all arms invariably sends forward an advanced guard for its immediate protection, whether its front is covered by cavalry.

The advanced guard must be far enough to the front to prevent the advances of the main body from being checked, and when contact with the enemy is obtained, it must act so as to gain space and time for the main body to deploy. It must at the same time avoid committing itself to a battle which may hamper the freedom of action of the commander of the whole force. This officer will consequently often march with the advanced guard, and does so constantly at night, when, acting as the main body in his absence. The strength and composition of the advanced guard are regulated by the situation, the intentions of the commander, the nature of the ground, and the strength of the main body. The proportion of the main body may vary from one-third to one-sixth, or even less, if the strength of that arm. Sometimes it may consist almost entirely of cavalry.

Field artillery will be specially detailed to an advanced guard of a large force, and pioneers will, as a rule, always be included. A balloon detachment, bridge train, and even hospital troops, may also be included.

The advanced guard is divided into the main body, the vanguard and the advanced guard cavalry, if any. The main body consists of the bulk of the infantry, the field artillery and the engineers, unless the latter are with the vanguard. The

of the sentries are so arranged that they can reach a point of observation without leaving the post.

The outpost reserve. The outpost reserve is a detachment of men, usually of the same arm of service as the outpost, who are posted in a position of observation, and are to be ready to move forward to the outpost in case of an attack.

The degree of readiness for action for the outpost reserve is decided by the commander of the outpost. Unless otherwise ordered, the men take off their accoutrements and shelter tents are pitched.

Outpost companies.—The outpost companies form a part of the main body of the army, and are usually of the same arm of service as the outpost. They are usually of the same arm of service as the outpost, and are usually of the same arm of service as the outpost. The number and distribution depend on the attitude of the enemy and the nature of the ground, with special reference to the roads.

A company is, as a rule, composed of two parts in any one section of the outpost line. The first part is usually a whole company for its protection. Each company is known by its number, as, "Outpost Company 123," (also Company of the 1st Regiment).

Detachment posts are employed under the orders of the company commander to hold important points to observe the enemy to observe other portions of the foreground. Night detached posts are sent forward along the main line for additional security.

A detachment of sentries, usually a platoon of the main post, is posted in a position of observation. The company commander, a double sentry or several sentries may be posted in a position of observation.

The men take off their accoutrements.

Piquets, sentries and patrols. Piquets are posted forward by the outpost company for its protection. The strength of the piquet is usually determined by the importance of the post and the proximity of the enemy. Important piquets are commanded by officers. The piquets

are numbered from right to left within the company. The men may take off their helmets and knapsacks only, and rifles are piled so that each relief and patrol may take up their own without mistake; the remainder of protection is obtained by sentries and patrols. The officer may be double sentries or non-commissioned officer's post (Unterposten), but more weight is laid on the latter as being watched by them and the intervening ground being patrolled, than on the line of sentries forming an unbroken chain.

Sentries. Double sentries are posted, as a rule, not further than from 140 to 550 yards from the piquet. Sentries are usually posted and relieved direct from the piquet. The six men forming the reliefs of a double sentry post are marched to that post by a non-commissioned officer by the shortest route, in 1st, 2nd and 3rd reliefs may know their way. The commander of the piquet decides whether the 1st relieved officer returns to the piquet with these reliefs, or whether he remains with his whole command to form a new double sentry post.

The two men of a double sentry post observe together and remain within communicating distance of each other.

All sentry posts are numbered from right to left within the piquet.

Unless orders have been given to the contrary a sentry may take off his knapsack and smoke. He may allow all officers, formed bodies of troops, patrols, mounted orderlies and evolutions belonging to his own force to pass, but all other persons are escorted to the piquet, and a sentry is authorized to stop any person who disobeys his orders. At night a sentry balances in a loud voice, "Halt! Wer da?" (Halt—who comes there?). He is authorized to fire if a third challenge is disregarded. Individual officers of the enemy approaching with a small escort and a flag of truce are not to be regarded as hostile.

Patrols. Infantry patrols are used for close reconnaissance even when touch with the enemy is maintained by cavalry patrols. If cavalry cannot be used the whole service of patrols is carried out by infantry. Patrols are sent out for the protection of a piquet while the sentries are being posted, and they are used within the sentry line to watch ground where no sentries are posted.

general rules laid down for outpost in the attack apply. Any works which have a special permanent garrison detailed to them protect themselves by sentries and patrols independently of the main system of outpost.

BILLETTS AND BIVOUACS

General.—In the German Army it is accepted that a bad billet is preferable to the best bivouac, and that, in the case of mounted troops, any kind of shelter is preferable to none at all. There is, in fact, a tendency to accommodate all mounted troops in billets, before sheltering the infantry. Bivouacs are only resorted to when they are rendered necessary on tactical grounds, owing to the proximity of the

B 16

It may be remarked that operation orders for getting troops in billets into position along a road are very detailed. In the case of a division, divisional orders at main railways deal with infantry regiments and even battalions in order to avoid any possible confusion.

Billets.

Two classes of billets are recognised, namely: (1) Ordinary billets (*Ordnungsbillets*), (2) Close billets (*Ordnungsbillets*).

Ordinary billets. In Germany itself, even in times of peace, all horseholders are liable to have troops quartered on them. In war, ordinary billets are resorted to when there is no prospect of contact with the enemy. The accommodation available in towns and villages is utilized in such a way as to provide the maximum of comfort for the troops without unduly inconveniencing the inhabitants. The extent of the area to be occupied depends on the number and size of the villages available, their situation as regards the line of march, the length of the column, the distance which the force has marched and is going to march next day, and the time available until the troops are again required to concentrate. It is convenient to make the depth of the billeting *rayons* approximately equal to the length of the column.

The existing, or proposed, order of march regulates the distribution of the troops to the various villages, and in order to make full use of the available accommodation it may be necessary to intermingle the different arms. The

villages nearest the line of march are occupied the most

Transport may be parked within the cantonment area. Guns, machine guns, ammunition columns and trains are placed outside, on the side most remote from the enemy. The wheels of the heavy artillery may remain on the road if the ground is either side a rail, and are kept outside the billeting area, closed up and to one side of the road.

When the enemy is in closer proximity, tactical considerations are of first importance and the troops are packed more closely, the inhabitants suffering accordingly. The villages nearest the enemy are occupied by strong bodies of infantry, an escort is quartered with the artillery, and trains are accommodated farthest away from the enemy.

The quarters or headquarters and other staffs are selected with regard to telegraphic, telephonic and road communications. These quarters are distinguished by the authorized marks: swags of straw by day, and by lanterns by night. Telegraph and telephone stations are marked by a white flag, with a large white T on a red ground. At each telegraph station a plan of the telegraphic communications is hung up wherever possible; this plan also contains information as regards the positions of the various staffs. If a place is occupied for some time, the positions of staff boards at the entrances, signposts being erected if necessary.

The preliminary measures for quartering are, as a rule, arranged in accordance with the following plan: billeting papers being issued with the troops. A section is assigned to assign a section of the billeting area with clearly defined boundaries to each body of troops, and certain streets and houses to each of its units, officers being sent on ahead to arrange the allotment of billets.

A senior officer, unless another is specially detailed, is appointed cantonment commandant (*Ordnungsbefehlshaber*). He is responsible for the allotment of billets, and for security and order. He appoints an officer (a subaltern or field officer according to the strength of the force), for cantonment duty, who is responsible for the guards. Officers for rounds (*Rounds Officers*) are detailed as required. Officers of the day are detailed by each battalion, cavalry regiment, *Abteilung*

Close bullets. W + troops cannot be seen from
the manner bivouac in the vicinity, or

Cavalry bivouacs.—Cavalry bivouac in column of squadrons at half distance facing a flank (see Plate 2). On the command, the formation of the rear ranks of squadrons is broken, the men move 20 paces to the rear, squadrons remain open, until they occupy 1½ times their original front. When the men have dismounted by word of command, they plant or lay down their arms three paces in front of the horses' heads. Head dresses and accoutrements are laid down half a pace further to the left. Picket posts are driven in at equal intervals immediately in front of the horses' heads and the picket lines are made fast to them. If the order to off-saddle has been given, the saddles are taken down with the pommes towards two horses and three paces in rear of them. Carbines are left on the saddles. Saddle blankets folded ready for saddling up are laid down either

laid over the saddles, according to the weather, or they may be used to blanket up the horses. Bridles are laid on the saddles, bits towards the horses.

Field artillery bivouacs. For field artillery bivouacs are shown in Plate 3. When the artillery has formed up, the men dismount and the horses are laid out. For this purpose the pieces are drawn up in a line on the ground, the wheels are scotched, and the picket lines are stretched between the wheels. Wagon covers are rolled up into the picket lines at a few paces from their ends to keep the horses clear of the carriages. If necessary a picket post is driven in to support the centre of the picket line. Saddles are laid down with the pommels towards the horses and three paces in rear of them. Girths, traces, surcingles and all articles of equipment stowed on behind the saddle are laid on the seats of the saddles. Over these are laid the saddle-blankets folded ready for saddling up, unless they are required to blanket up the horses. Bridles are laid on the markers laid out towards the pieces, and their halteres, blinkers and reins are laid out in front of the picket line. The pommels of the saddles and lawrels are left on the ground. The axes are laid out in front of the picket line, and the reins are laid out on the ground.

Heavy artillery bivouacs. The Regulations for field artillery bivouacs are the same as for the field artillery. Bivouacs are laid out in a line by the number of the pieces, and the pieces are laid out in a line by the number of the pieces.

Bivouacs of other troops. Machine gun batteries and other troops bivouac in the same manner as the field artillery. Bivouacs are laid out in a line by the number of the pieces, and the pieces are laid out in a line by the number of the pieces.

CHAPTER XX

SIGNALLING

General.—Visual signalling has not hitherto been treated seriously in the German Army. There is no School of Signalling, and what instruction is given is carried out under regimental arrangements when opportunity offers.

There are 3 forms of visual signalling, viz. flag, heliograph and acetylene lamp.

Flag Signalling

Regulations.—The Regulations for Flag Signalling were first issued in 1906, and signalling in the German Army then took the place of the old semaphore system.

These Regulations appeared in December 1911. This is due to the fact that the Regulations have been being paid to the German Government.

Signalling group. A signalling group consists of 1 signaller (No. 1) and 2 messengers (Nos. 2 and 3). The signaller is the only one who is allowed to use the signalling system, and he is the only one who is allowed to use the signalling system.

The signaller is the only one who is allowed to use the signalling system, and he is the only one who is allowed to use the signalling system. The signaller is the only one who is allowed to use the signalling system, and he is the only one who is allowed to use the signalling system.

In the infantry the signaller is the only one who is allowed to use the signalling system, and he is the only one who is allowed to use the signalling system. In the cavalry these articles are carried by the No. 1 in a leather pocket on the off side of the saddle. In the field artillery they are carried in a tent bag on No. 1 gun.

The distance at which flag signalling can be carried out on a clear day is laid down as 2 miles without, and about 3 miles with a telescope.

Special Signals. The Regulations provide that the following signals shall be used by the whole of the force.

The signal to "Advance" is: — — — — —
 "Retreat" is: — — — — —

When sent from the firing line to the rear:
 "Increase elevation" is: — — — — —
 (g.v.)

When sent from the firing line to the front:
 "Ammunition required" is: — — — — —

When sent from the firing line to the rear:
 "Ammunition coming" (n.u.) is: — — — — —

When sent from the firing line to the rear:
 "We are going to charge" is: — — — — —

When sent from the rear to the front:
 "Fire" is: — — — — —
 "Advance" is: — — — — —

Proportion trained. In each company of infantry &c there must be 1 officer and 2 non-commissioned officers capable of acting as instructors.

Men are trained in the following proportions:

All handlayers.

Trumpeters of field artillery.

In the infantry, cavalry, field artillery and pioneers 8 men per company, including those trained in telephone duties.

In the foot artillery all those trained in telephone duties.

In the common tactical troops 12 men per company.

Helograph and Acetylene Lamp.

These are used only by the cavalry. The helograph is similar to the one in use in the British service, and can, according to the German, be used up to 25 miles.

The lamp apparatus consists of a strong folding tripod, an acetylene lamp, a cylinder of oxygen and one of carbide. The carbide cylinders last for 4 hours continuous work.

The cylinder (when in use, is placed in a tin of water, which, regulated by a screw, percolates through on to the carbide and forms the gas. The oxygen is fed through a 4-inch tube at the back of the lamp at a pressure of $2\frac{1}{2}$ atmospheres. A small sliding telescope is fixed on the lamp, and the helograph mirror can be attached to the top of it if required, the optical axes of the lamp, telescope and helograph being in line.

The range of the lamp is 12 miles by day and 25 by night. A rate of signalling of 2 words a minute is aspired to by both the lamp and helograph.

Field signalling detachments. These are formed by the 1st and 2nd battalions of the 1st, 2nd and 3rd Divisions. For details see page 117.

CHAPTER XVI.

COLONIAL FORCES.

General. There is no regular German Colonial Army at present, but it is the intention to form one in the near future, although no active steps have been taken in the matter.

It is a matter of course that the colonies are not to be sent to war without the consent of the Reichstag, but no decision or law has actually been laid down on the subject.

Military and police forces in the protectorates. The following military and police forces are at present maintained in the several protectorates.

- (a.) The protectorate troops (*die Schutztruppen*) for service in the African protectorates and police.
- (b.) The German troops in the Western Pacific Division.
- (c.) The garrison of the Kiauchau territory and the East Asian Detachment.

(a.) **The Protectorate Troops (*Die Schutztruppen*)**

Origin of the protectorate troops. The origin of these troops was a force of about 1,400 natives and 100 other German officers and non-commissioned officers, which was raised by a Captain Wissmann in 1884 for service in German

East Africa, the money for the same being provided by the German Government. In 1891 this force was taken over from Captain Wissmann by the Government, and was named the *Kaiserliche Schutztruppe*. Similar forces were shortly afterwards formed in German South-West Africa and the Cameroons. In 1898 Regulations for the organization and administration of the *Schutztruppen* in Africa were issued, and these, as amended from time to time, still obtain.

According to the first paragraph of these Regulations, the *Schutztruppen* are for the purpose of assuring the safety of the several protectorates, maintaining public order, and suppressing the slave trade.

Administration.—The administration of the protectorate troops is carried out primarily by the military branch of the Colonial Office. The branch is officially designated *das Kommando der Schutztruppen* (the headquarters of the protectorate troops), and is under a colonel, whose personal staff consists of a captain of the General Staff and one official.

In each protectorate the governor is his chief local military authority. He can, for military purposes, use the troops as he thinks fit, and they can be employed in civil capacities if military considerations permit.

In immediate command of the troops in each protectorate is the *Kommandeur*, who is responsible for their training, discipline and interior economy.

In cases of difference of opinion between him and the governor, appeal is made to the Colonial Office in Berlin, and the *Kaiserliche Kommando*.

Pay, food, and subsistence, arms and equipment are regulated by the *Kaiserliche Kommando* in Berlin, and the *Kommandeur* on whom rests the responsibility.

The various ranks of officers and non-commissioned officers and the hierarchy are the same as in the Home Army.

The strength and organization of the troops are regulated annually in the Budgets of the several protectorates.

Recruitment and conditions of service. Officers, non-commissioned officers and artificers are recruited from volunteers from the Navy and Army. The private soldiers of the German South West African force are recruited partially in a similar manner, and partially from men who elect to do their term of military service in the protectorate. Lists of volunteers for service in Africa are kept in Berlin

officers must have 3 years service pass a rigorous medical examination and be specially recommended. Non-commissioned officers must also pass a medical examination and be recommended.

Topoland and the Cameroon
German East Africa
German South-West Africa

an Imperial order issued in December, 1942, a y reform
to be able to military service, including outside Europe, may
perform (1) the (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100) (101) (102) (103) (104) (105) (106) (107) (108) (109) (110) (111) (112) (113) (114) (115) (116) (117) (118) (119) (120) (121) (122) (123) (124) (125) (126) (127) (128) (129) (130) (131) (132) (133) (134) (135) (136) (137) (138) (139) (140) (141) (142) (143) (144) (145) (146) (147) (148) (149) (150) (151) (152) (153) (154) (155) (156) (157) (158) (159) (160) (161) (162) (163) (164) (165) (166) (167) (168) (169) (170) (171) (172) (173) (174) (175) (176) (177) (178) (179) (180) (181) (182) (183) (184) (185) (186) (187) (188) (189) (190) (191) (192) (193) (194) (195) (196) (197) (198) (199) (200) (201) (202) (203) (204) (205) (206) (207) (208) (209) (210) (211) (212) (213) (214) (215) (216) (217) (218) (219) (220) (221) (222) (223) (224) (225) (226) (227) (228) (229) (230) (231) (232) (233) (234) (235) (236) (237) (238) (239) (240) (241) (242) (243) (244) (245) (246) (247) (248) (249) (250) (251) (252) (253) (254) (255) (256) (257) (258) (259) (260) (261) (262) (263) (264) (265) (266) (267) (268) (269) (270) (271) (272) (273) (274) (275) (276) (277) (278) (279) (280) (281) (282) (283) (284) (285) (286) (287) (288) (289) (290) (291) (292) (293) (294) (295) (296) (297) (298) (299) (300) (301) (302) (303) (304) (305) (306) (307) (308) (309) (310) (311) (312) (313) (314) (315) (316) (317) (318) (319) (320) (321) (322) (323) (324) (325) (326) (327) (328) (329) (330) (331) (332) (333) (334) (335) (336) (337) (338) (339) (340) (341) (342) (343) (344) (345) (346) (347) (348) (349) (350) (351) (352) (353) (354) (355) (356) (357) (358) (359) (360) (361) (362) (363) (364) (365) (366) (367) (368) (369) (370) (371) (372) (373) (374) (375) (376) (377) (378) (379) (380) (381) (382) (383) (384) (385) (386) (387) (388) (389) (390) (391) (392) (393) (394) (395) (396) (397) (398) (399) (400) (401) (402) (403) (404) (405) (406) (407) (408) (409) (410) (411) (412) (413) (414) (415) (416) (417) (418) (419) (420) (421) (422) (423) (424) (425) (426) (427) (428) (429) (430) (431) (432) (433) (434) (435) (436) (437) (438) (439) (440) (441) (442) (443) (444) (445) (446) (447) (448) (449) (450) (451) (452) (453) (454) (455) (456) (457) (458) (459) (460) (461) (462) (463) (464) (465) (466) (467) (468) (469) (470) (471) (472) (473) (474) (475) (476) (477) (478) (479) (480) (481) (482) (483) (484) (485) (486) (487) (488) (489) (490) (491) (492) (493) (494) (495) (496) (497) (498) (499) (500) (501) (502) (503) (504) (505) (506) (507) (508) (509) (510) (511) (512) (513) (514) (515) (516) (517) (518) (519) (520) (521) (522) (523) (524) (525) (526) (527) (528) (529) (530) (531) (532) (533) (534) (535) (536) (537) (538) (539) (540) (541) (542) (543) (544) (545) (546) (547) (548) (549) (550) (551) (552) (553) (554) (555) (556) (557) (558) (559) (560) (561) (562) (563) (564) (565) (566) (567) (568) (569) (570) (571) (572) (573) (574) (575) (576) (577) (578) (579) (580) (581) (582) (583) (584) (585) (586) (587) (588) (589) (590) (591) (592) (593) (594) (595) (596) (597) (598) (599) (600) (601) (602) (603) (604) (605) (606) (607) (608) (609) (610) (611) (612) (613) (614) (615) (616) (617) (618) (619) (620) (621) (622) (623) (624) (625) (626) (627) (628) (629) (630) (631) (632) (633) (634) (635) (636) (637) (638) (639) (640) (641) (642) (643) (644) (645) (646) (647) (648) (649) (650) (651) (652) (653) (654) (655) (656) (657) (658) (659) (660) (661) (662) (663) (664) (665) (666) (667) (668) (669) (670) (671) (672) (673) (674) (675) (676) (677) (678) (679) (680) (681) (682) (683) (684) (685) (686) (687) (688) (689) (690) (691) (692) (693) (694) (695) (696) (697) (698) (699) (700) (701) (702) (703) (704) (705) (706) (707) (708) (709) (710) (711) (712) (713) (714) (715) (716) (717) (718) (719) (720) (721) (722) (723) (724) (725) (726) (727) (728) (729) (730) (731) (732) (733) (734) (735) (736) (737) (738) (739) (740) (741) (742) (743) (744) (745) (746) (747) (748) (749) (750) (751) (752) (753) (754) (755) (756) (757) (758) (759) (760) (761) (762) (763) (764) (765) (766) (767) (768) (769) (770) (771) (772) (773) (774) (775) (776) (777) (778) (779) (780) (781) (782) (783) (784) (785) (786) (787) (788) (789) (790) (791) (792) (793) (794) (795) (796) (797) (798) (799) (800) (801) (802) (803) (804) (805) (806) (807) (808) (809) (810) (811) (812) (813) (814) (815) (816) (817) (818) (819) (820) (821) (822) (823) (824) (825) (826) (827) (828) (829) (830) (831) (832) (833) (83

When their period of active Reserve is in the Home Arm

Officers and not commissaries/ W
 certain appointments w/ the group

Leave to Europe for field officers is given by the (1) cell r, and for junior officers by the local *firmamentor*. In cases of sick leave, and in special circumstances, the local c. or can extend the leave up to 6 months for any further *firmamentor*. Junior is required. Leave in Africa is limited as follows:

$$K_p \cong \frac{H^0(X, \mathcal{O}_X(p))}{\sum_{i=1}^n H^0(X, \mathcal{O}_X(p-i) \otimes \mathcal{L}_i)}$$

Rates of pay and allowances.—The pay of officers is the same in all the African protectorates, and varies between 700*l.* a year for a field officer and 315*l.* a year for a lieutenant. The pay of non-commissioned officers and artificers varies in the several protectorates, being highest in the Cameroons and lowest in German South-West Africa.

New commissioned officers also receive a monthly allowance of 5s., and a sum of 1*l*. 5s. at the commencement of each year, subsequent to the completion of the first period of service.

Special and increased rates of pension are given, time of service in these protectorates counting double.

Native troops.—The native troops are, in the main, recruited locally in each protectorate, but the Chinese Government give sanction for recruiting from other countries. In the Cameroons two-thirds of the native force are recruited locally and one-third from the neighbouring colonies of other Powers. In German East Africa Askaris are enlisted

Conditions of service are according to the enlistment contract, as fixed by the local military authorities. Sentences of capital punishment must be confirmed by the governor, except in cases where there are urgent reasons for prompt execution. (See Page 28.)

Strength of forces.—The total number of European troops and armed police in the protectorate, according to the Estimates for 1914, is—

| | | | |
|---------------------------------|-----|-----|-------|
| Europeans, all ranks | ... | ... | 260 |
| Nadanese and natives, all ranks | ... | ... | £, 47 |

| | |
|---------------------------------------------------------------------------------|-------|
| Europeans (4 officers and 48 non-commissioned officers from the regular troops) | 53 |
| Natives | 2,140 |

In addition to the above, it is reported that at several stations in the interior considerable forces of irregulars are recruited among the natives, and are trained and armed with B.L. rifles. Information is not available as to their numbers.

| | Nut | + |
|--------------------------|-----|-----|
| | a | d |
| 14 example | | |
| a machine-gun attachment | m | 60 |
| a signal reg. assignment | to | 40 |
| recorder by depot | *** | 180 |
| at | | 0 |

* Immediate to military carriers, with any labourers, and ex-soldiers

| Company | Headquarters | Detachment | Goals and
main objectives |
|---------|--------------|------------|------------------------------|
| 1st | Armed | Iron | 4 |
| 2nd | Iron | Iron | 4 |
| 3rd | Iron | Iron | 4 |
| 4th | Iron | Iron | 4 |
| 5th | Iron | Iron | 4 |
| 6th | Iron | Iron | 4 |
| 7th | Iron | Iron | 4 |
| 8th | Iron | Iron | 4 |
| 9th | Iron | Iron | 4 |
| 10th | Iron | Iron | 4 |
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| 96th | Iron | Iron | 4 |
| 97th | Iron | Iron | 4 |
| 98th | Iron | Iron | 4 |
| 99th | Iron | Iron | 4 |
| 100th | Iron | Iron | 4 |

Armament. One 98 carbine and short 98 rifle.
To ice, carry the lengthened '98 carbine and short '98 rifle.
(1636)

There are now in operation 1 " and 36 " 100 yd. g. t. c. p. guns (44 and 18 " c. p.), 6 medium guns (2-8 in.), and a certain number of light field and other small guns in the protectorate. There are also machine-guns, including those with the paddle.

Uniform and Equipment. Europeans wear a tunic and trousers or a *ki ri* (see table 28) with yellow lace boots and leggings. The Japanese have also a white undress uniform. The

4. The East African troops being due last July for re-
armament are supplied by the Government with

The Sulu and Sulu people wear a kinkir and a uniform similar to the one worn by the Sulu people. They have bands, like the Sulu people, and a red band with a black cover with the number of the Sulu people.

covered aluminum water bottle, a dry king-cup, blanket, and waist-
coat, to be wrapped up, and to be gradually dug over with

There is a world around on the slavers.

[illegible]

Military and Police Forces in German South-West Africa.

Military Force.

Strength and organization. The strength and organization of the Russian Air Corps is given in the following for 1914, as follows: 80 officers (including 1 commanding officer, 4 field officers, 13 captains, 70 lieutenants, and 20 lieutenants junior grade), 2000 non-commissioned officers, 10,000 privates, 3,000 officers, 369 non-commissioned officers, and 1,041 privates, for a total 1,987 Europeans.

This force is organized as follows:

[illegible]

T. L. L. 1971

There are also 589 copies sold. ex-

Uniform and equipment. 48

same material with stripes of cornflower blue. The
parade purposes a grey hat but turned up on the right side.
It is a very nice hat.

consists of a waterthrust with frog and two by

1.5. $\alpha \in \text{per } \mathcal{A}$ $\Leftrightarrow \alpha \in \text{per } \mathcal{B}$.

In the Protectorate. Tunics or jackets (*Lutemku*) of khaki corduroy are worn by both officers and men, also corduroy pantsloons and trousers. The tunics have a breasted and white etc buttons.

Khaki drill, very similar L. pattern to the T. ...

$$T_{\text{eff}} = \frac{1}{2} \left(\frac{1}{T_1} + \frac{1}{T_2} \right) = \frac{1}{2} \left(\frac{1}{T_1} + \frac{1}{T_2} \right) = \frac{1}{2} \left(\frac{1}{T_1} + \frac{1}{T_2} \right)$$

Armament.

pattern Mousar and sword bayonet, and carbine are carried in a sacket on the front part of the soldier's tunic.

Of rifle calibre machine-guns there are from 40-60

Distribution. The distribution of the troops is given as under in the Estimates for 1912.

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Southern District

Headquarters of Southern District
2nd Section of the Communications Department
Artillery and Train Depot
Cooking Depot
Hospital
Supply Depot
Medical Depot
Communicative Office
Company
Company
Railway
Rascals and Nerveless
Kinds are i Matashio
Ghosts and Anches
Warmed up of Usabi

| | | |
|----------------------------------------------|--------|---------------|
| | City | State |
| in Company (Railway Construction
Company) | | Ko' s |
| 1st Machine Battery | ... .. | Nemo |
| Machine Battery | ... .. | Bism |
| Remount Depot | ... .. | Alo |
| Care breeding establishment | ... .. | Ka kinto |
| Supply Depot | ... .. | Ludovitz Bay. |
| Local Commander's Office | ... .. |  |

There are no exact balances, at most of the major ...

The strength for which pay is demanded in the 1st ... is ... 5 paymasters, 6 officials, 1 ... majors, 502 private servants and 36 private, total, 1 ... There are also 370 native police.

Total force available. - The number of reservists estimated by the German High Command to be available for mobilization is about 70% of the male adult German population.

Pt. _____

Rd. _____

Total force available (round numbers). 6,800

Military and Police Forces in Togoland

According to the annual Estimates, an armed police force maintained in Togoland, consisting of 1 commandant, 1 lieutenant and 8 police superintendents (including 3 and officers, 1 medical under-officer and 1 artificer) all Europeans, together with some 560 native policemen, of whom 144 are stationed in Lomé.

It is reported that there are, in addition to the police force, about 600 native troops,* formed for purposes of administration into one battalion, with headquarters at Lome, and with detachments at the various outstations. In 1909 a company 160 strong was reported to be at Soqod.

There is no artillery in the protectorate, nor are there any machine guns as far as can be ascertained.

In the Sansa ie Mangu district a small proportion of the troops are said to be mount.

* According to recent reports 1914 from a German officer
a. (5) Mausers for arming the natives and a supply

1777 2e 1374

[illegible][illegible]

* 7 " re i n d i f e r e n t u 50 p l . v c m m i s s a

It is a fine example of the pattern Mawser made.

P_L et F_L et

So, all four are Ungulates and all have hooves. So all 4, such as Kudu, Vervet and Bushbuck, have a way of life, a trooping with other members of the same species. They have all been in the up to the north.

Total force available is the total force available for
the full complement of the force available 2,100

The Native Police in the Western Pacific Division

Samoa.—The police force consists of 52 natives with 2 European superintendents.

* Central and peripheral systems, 1992

(*) The Garrison of Kiao-chau and the East Asian Detachment.

Strength and organization. The troops are included under one head in the East Asian Detachment being stationed at King (Legation guard), Tientsin and other places in North China to protect German interests.

The strength of the naval and marine forces at Kiao-chau is estimated for 1914 as follows.

| | Infantry | Artillery | Engineers | Medical | Signal | Telegraph | Other |
|---------------------------------|----------|-----------|-----------|---------|--------|-----------|-------|
| Staff in the town | 4 | | | | | | |
| Marine Infantry | 1, 80 | 3 | 1 | 1 | 1 | 1 | 1 |
| Machine Gun Section | | | | | | | |
| Marine Mounted Infantry | 15 | | | | | | |
| Marine Field Artillery | | | | | | | |
| Marine Engineers | 1 | | | | | | |
| Naval Artillery | | | | | | | |
| Naval Engineers | | | | | | | |
| Naval Medical | | | | | | | |
| Naval Signal | | | | | | | |
| Naval Telegraph | | | | | | | |
| Naval Other | | | | | | | |
| Marine Department | 1 | | | | | | |
| Intelligence and Barrack Depart | 18 | | | | | | |
| Post Office | | | | | | | |
| Police | 9 | 1 | 2 | | | | |
| Total | 2, 556 | | | | | | |

Uniform, equipment and armament. In addition to the ordinary white uniform of the navy worn in hot climates, the garrison has a special tropical uniform (see Plate) consisting of a khaki drill coat and trousers, and a white helmet. The collar of the coat is edged by red white and blue stripes. Officers' shoulder cords are of the same pattern. The uniform is of the same pattern as the European uniform, and badges of rank as in the Home Army.

The equipment consists of a leather belt with ammunition pouches, a canteen, a drinking cup attached to the belt, and a knife. The police wear khaki trousers and breeches, blue puttees, and a yellow sash, from which hangs a black belt. The police are armed with revolvers and a 300-calibre Mauser, and the fixed gun is the 305-inch.

Police.—There is also an armed police force in Kiao-chau, armed with rifles and revolvers, and consisting of 30 Europeans and about 100 Chinese. The total force available is, therefore, about 2,700 men.

Reservists.—There are about 400 reservists, who can be called out if required.

Strasbourg

Stressors

Comar

Neg. b7c2504

Column

THE

CONCLUSIONS

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Comment

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5. 1941-1942

Pr. A. A.

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APPENDIX 11

LIST OF PUBLICATIONS AND FORTIFIED WORKS

Western Frontier

[illegible]

Eastern Frontier

| | | | |
|----------------------|-----------|------------------|----------|
| | South. | Lane of the | A. 9. 9 |
| | Glast. | Thorn | " " |
| | Clevedon. | Ku. n. | " " " |
| S. W. V. E. g. work- | | M. O. L. A. G. + | Z. 6. |
| case * | | R. u. n. g. | I. d. x. |

Coast Defences.

| | |
|-----------------------|-----------------------|
| Baltic. | North Sea |
| Medial | Oxhey and Elbe Jct. |
| Black | Greenland and West of |
| Danish (10%). | Wilhelmsburg |
| Sw. Finland. | Helsing. |
| Exp. on Pre-revision. | Berkua and W. green. |

Colonial.

100-1000

APPENDIX II.

MILITARY HIERARCHY

Grades of Combatant Officers.

The grades of combatant officers, with the corresponding grades in the British service, are as follows :—

| | | | | | |
|------|-------------------------------------------------------------------|-----|-----|------|--------------------------------------------------------------------|
| (a.) | Generalität | ... | ... | (a.) | General officer |
| | General-Feldmarschall | ... | ... | | Field marshal |
| | General der Infanterie, oder der Kavallerie, oder der Artillerie. | ... | ... | | General (of infantry, cavalry or artillery). |
| | General-Major | ... | ... | | Major-general |
| b. | Stabs-Offiziere | ... | ... | (b.) | Field officers |
| | Oberst | ... | ... | | Colonel |
| | Oberst-Leutnant | ... | ... | | Lieutenant-colonel |
| | Major | ... | ... | | Major |
| (c.) | Hauptleute und Rittmeister | ... | ... | (c.) | Captains |
| | Hauptmann | ... | ... | | Captain of infantry, artillery or cavalry |
| | Rittmeister | ... | ... | | Captain of cavalry or train |
| d. | Subaltern-Offiziere | ... | ... | (d.) | Subalterns |
| | Ober-Leutnant | ... | ... | | First-lieutenant |
| | Leutnant | ... | ... | | Second-lieutenant |
| | Feldwebel-Leutnant | ... | ... | | Quartermaster-lieutenant (only appointed in the Depot or Garrison) |

Officers of one grade rank among themselves according to the date of their commissions and if an officer is transferred from one regiment to another he takes rank in his new regiment according to that date. Officers with brevet rank (*charakterisierte Offiziere*), which is only given to aequale promotion or to keep officers on promotion in their own regiments, or on retirement rank after all officers with the same rank as active rank. The Officers of the Ordnance Corps (*Kriegsoffiziere*) and those of the artificers corps (*Festungsoffiziere*) have the same hierarchy, but prefix *Leutnant* or *Freiwortführer* to their title.

Grades of Medical Officers

The grades of medical officers, who are assimilated in rank to combatant officers, but who have no combatant duties are as follows:

| | |
|-------------------------------------------|----------------|
| Generalsekretär | Th. Schönbauer |
| Überwachen, Arzt und Sanitäts-Instrukteur | M. J. J. J. J. |

Mitgliedsbeitrag

For grades 1-4, the 1980s are the 1980s. For grades 5-8, the 1980s are the 1980s. For grades 9-12, the 1980s are the 1980s.

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Notwithstanding the fact that the above is a true and correct statement of the facts, the undersigned is not a member of the said organization, and is not a member of the said organization, and is not a member of the said organization.

Vicar General
 Dan I. Morgan
 St. John's
 St. John's

Serjeant Major per la riera
A l'alta de la riera

[illegible]

1. $\mu = \mu_1 + \mu_2 + \dots + \mu_n$
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 10. $\mu = \mu_1 + \mu_2 + \dots + \mu_n$

[illegible]

| | |
|-----------------------|---------------------------------|
| Trainsman | Private of train who serves 3 |
| Trainsoldat | Private of train who serves 4 |
| Guard | Private of 115th Regiment |
| Trainsoldat | Private of all Bavarian troops |
| Sanitätshelfer | Sub-hospital assistant |
| Sanitätssoldat | Hospital orderly |
| Spiesmann | Military spy |
| Militär-Bäcker | Military baker |
| Krankenträger | Sick attendant |
| Oekonomisch-Verwalter | Manager |
| Handwerker des Trains | Trainsman of the train |
| Krankenträger | Stretcher bearer |
| Arbeitsmann | Soldier of a disciplinary corps |

Grades of Officers.

(a.) Military.

The following list shows the class of appointments held by military officials, higher being marked (A), subalterns (B) and lower (C):—

| | |
|------------------------------------|-------------------------------|
| Zahlmeister (B) | Paymaster |
| Vauführer, Lieutenant | Armourer |
| Offizier (C) | Saddler |
| Infanterie-Drumme | Drum major |
| Korps-Intendant (A) | Intendant |
| Intendant-Pai (A) | Intendant |
| Intendant-Adjutant (A) | Intendant |
| Intendant-Sekretär (B) | Intendant |
| Intendant-Registrator (B) | Intendant |
| Intendant-Registrator-Adjutant (B) | Intendant |
| Intendant | Intendant |
| Intendant-Auditeur (A) | Intendant |
| Intendant-Korps-Auditeur (A) | Intendant |
| Intendant-Sekretär (B) | Intendant |
| Intendant-Sekretär (B) | Intendant |
| Militär-Geistliche (A) | Military chaplain |
| Militär-Küster (C) | Military servant |
| Militär-Musik-Meister (B) | Inspector of military music |
| Waffenmeister der Kavallerie (B) | Armourer in charge of cavalry |

Fortifications-Beamte

Offizier-Beamte Beamter (B)

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Engineer officials

Chief superintendent of fortifications

Superintendent of fortifications

Engineer secretary

Assistant engineer secretary

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APPENDIX IV.

PAY OF OFFICERS AND MEN

● 中国书画函授大学

[illegible]

Non-commissioned Officers and Men

| | Rail | Amount
per cent. |
|--------------------------------------------------------------------------------------------------------|------|---------------------|
| Sergeant and
Vice-sergeant-major, sergeants and non-commissioned
officers of over years' service | 8 | 10 |
| Sergeants and non-commissioned officers (7 years to 54
years) | 1 | 9 |
| Non-commissioned officers (7 months to 6 years) | 2 | 8 |
| Musicians
and corporal-artificers | 3 | 1 |
| Drummers and fiddlers | 4 | 0 |
| Priests and clerics | 1 | 8 |
| | 5 | 4 |

APPENDIX A

EVAN BOUSE FIELD, R. H. AND S. I. NALL, S.

[illegible]

| | | |
|----|---------------------|---------------------|
| 1 | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ |
| 2 | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ |
| 3 | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ |
| 4 | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ |
| 5 | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ |
| 6 | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ |
| 7 | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ |
| 8 | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ |
| 9 | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ |
| 10 | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ | ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ |

| | | | | | |
|------------------------|---|---|---|---|---|
| Full stop | . | . | . | . | . |
| Semicolon | ; | . | . | . | . |
| (to us) | (|) | . | . | . |
| (of) | (|) | . | . | . |
| Note / interrogation | ? | . | . | . | . |
| Inverted comma | ' | ' | ' | ' | ' |
| Note of exclamation | ! | . | . | . | . |
| Hyphen | - | - | - | - | - |
| Apostrophe | ' | ' | ' | ' | ' |
| Brace left | { | } | . | . | . |
| "Quotation" | " | " | " | " | " |
| Underlining | _ | _ | _ | _ | _ |
| Cable net | # | # | # | # | # |
| Ilegalizing of message | / | / | / | / | / |
| Answer | > | . | . | . | . |
| Message received | < | . | . | . | . |
| "Wait" | : | : | : | : | : |
| "Finish" | : | : | : | : | : |
| Bonus | * | * | * | * | * |
| Error of message | x | x | x | x | x |
| At the end of | . | . | . | . | . |

The signs employed by the maps, the table, such as those for 'Advance', 'Halt' and give the chapter on signs on page 256.

GLOSSARY OF MILITARY TERMS AND ABBREVIATIONS

[illegible]

APPENDIX VII.

[illegible]

APPENDIX VIII

TOPOGRAPHICAL CONVENTIONAL SIGNS AND
SYMBOLS

CONVENTIONAL SIGNS FOR PRUSSIAN MILITARY MAPS

See Page 2

The ... are used with the special signs —

[illegible]

APPENDIX IX.

WE. HIS MEASURES AND CHINA L.

WEIGHTS

| | |
|-------------------|----------------|
| 1 lb. avoirdupois | = 7,000 grains |
| 1 lb. troy | = 5,760 grains |
| 1 lb. avoirdupois | = 7,000 grains |
| 1 lb. troy | = 5,760 grains |
| 1 lb. avoirdupois | = 7,000 grains |
| 1 lb. troy | = 5,760 grains |

MEASURES

1 lb. avoirdupois = 7,000 grains

| | |
|-------------------|----------------|
| 1 lb. avoirdupois | = 7,000 grains |
| 1 lb. troy | = 5,760 grains |
| 1 lb. avoirdupois | = 7,000 grains |
| 1 lb. troy | = 5,760 grains |
| 1 lb. avoirdupois | = 7,000 grains |
| 1 lb. troy | = 5,760 grains |

Roughly 10 Meas. = 1 yard and 5 in. or 8 Kilmers.

| | |
|---------------------------|--------------------|
| 1 Zentner (80,000 Meas.) | = 1,000,000 grains |
| 1 Ar. (10,000 Meas.) | = 100,000 grains |
| 1 lb. (7,000 Meas.) | = 70,000 grains |
| 1 Equival. (10,000 Meas.) | = 1,000,000 grains |

| | |
|---------------------|-----------------|
| 1 lb. (7,000 Meas.) | = 70,000 grains |
|---------------------|-----------------|

| | |
|---------------------|-----------------|
| 1 lb. (7,000 Meas.) | = 70,000 grains |
|---------------------|-----------------|

| | |
|---------------------|-----------------|
| 1 lb. (7,000 Meas.) | = 70,000 grains |
|---------------------|-----------------|

PENNINGS

100 Pennings = 1 Mark = 1/4 lb.
The Mark is the standard financial unit

The Mark is the standard financial unit
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The Mark is the standard financial unit
The Mark is the standard financial unit
The Mark is the standard financial unit

The exchange value of 1L may be taken as 20 Mark 25 Pennings
but this of course, fluctuates with the state of the money market
For all practical purposes 20 Marks are equivalent to 1L

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APPENDIX XII.

OF WORKS IN CONNECTION WITH THE
 DRILL AND TRAINING OF THE GERMAN ARMY
 TRANSLATED OR COMPILED BY THE GENERAL
 STAFF

For official use only

Infantry Drill Regulations of the German Army 1908. (Price 32.) (T)
 Drill Regulations for the Field Artillery of the German Army, 1908. (Price 32.) (T)
 Drill Regulations for the Heavy Artillery of the German Army, 1908. (Price 32.) (T)
 Education and Training of the German Cavalry, 1908. (Price 32.) (T)
 Education and Training of the German Field Artillery, 1911. (Price 32.) (T)
 Education and Training of the German Pioneers and Command
 Troops. (In preparation.) (T)
 Handbook of the German Army, 1908. (Price 32.) (T)
 Military Resources of the German Empire, 1908. (Price 32.) (T)
 The German Army, 1908. (Price 32.) (T)
 The Supply Service of the German Army, 1908. (Price 32.) (T)
 Parts II and III, 1908. (Price 32.) (T)
 The German Army, 1908. (Price 32.) (T)

On sale.

Drill Regulations for the Foot Artillery of the German Army, Part IV
 1908. (Price 32.) (T)
 Drill Regulations for the Cavalry of the German Army, 1908.
 (Price 32.) (T)
 The Duties of the General Staff, by von Schellendorff, 1908.
 (Price 5s.) (T)
 Regulations for Manoeuvres, German Army, 1908. (Price 32.) (T)
 Field Service Regulations German Army, 1908. (Price 1s.) (T)
 The German Army, 1910. (Price 32.) (T)
 The German Army, 1910. (Price 32.) (T)
 The German Army, 1911. (Price 32.) (T)

MENT, AND SPACE

Cavalry of both divisions pushed
 forward.



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INDIAN

1. The first part of the paper is devoted to a review of the literature on the topic of the role of the state in the development of the economy. It is found that the state has played a significant role in the development of the economy in many countries, particularly in the case of developing countries.

A

[illegible]

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

К

$$\frac{1}{k} \left(\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} \right) = 0$$

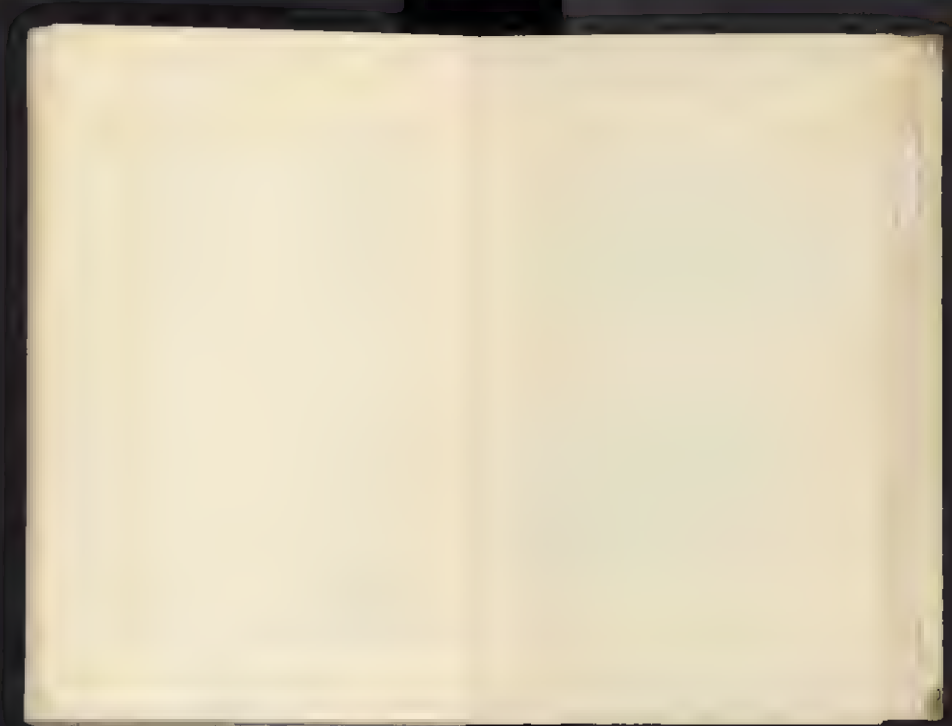
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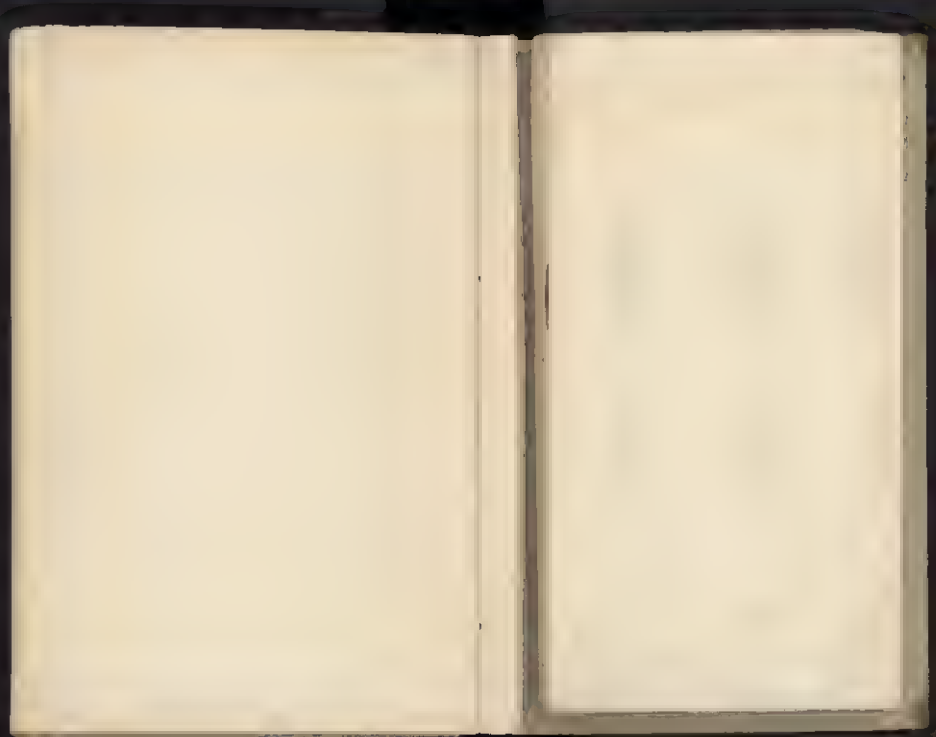
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| 100th | 100 |

M

Batteries, allotted to cavalry divisions

[illegible]

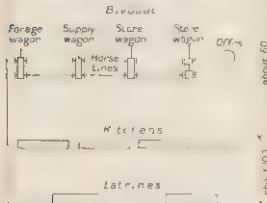
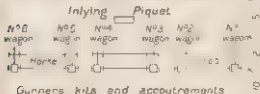
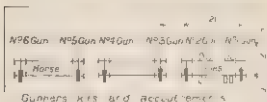






Bivouac of a Field Battery

Front Field Battery, about 90 yards
 83 yards Horse Battery about 60 yards or
 110 metres = 120 yards,



Depth about 275 paces or 1100 yards
 Intervals and distances as shown

GENERAL OFFICERS

EXPLANATORY FIGURE

PRUSSIA AND OTHER STATES

BAVARIA



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.



FULL DRESS



PARADE DRESS



FULL DRESS



PARADE DRESS

AID CH. TO THE EMPEROR

WAR MIN. STAFF

GENERAL STAFF



PRUSSIA AND OTHER STATES



BAVARIA



PRUSSIA AND OTHER STATES



BAVARIA



PRUSSIA AND OTHER STATES

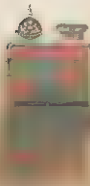


BAVARIA

INFANTRY

PRUSSIA

BAVARIA



AGER AND S HLTZEN

MACHINE GUN BATTERY

PRUSSIA

SAXONY

BAVARIA



Nº BAVARIAN "JAGER"

Nº2 GUARD BATTERY

CAVALRY

CU RASSERS



Cuirassier's Regt



Cuirassier's Regt



Cuirassier's Regt

SAXON HEAVY CAVALRY



Saxon Heavy Cavalry

PRUSSIA



Prussian Cuirassier's Regt

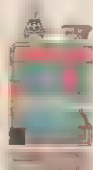
DRAGOONS

HESSE



Hessian Dragoon's Regt

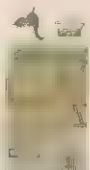
BAVARIA



Bavarian Dragoon's Regt

"JÄGER ZU PFERDE"

PRUSSIA



Prussian Mounted Hunter's Regt

HUSSARS

plate B

PRUSSIA



BODY GUARD HUSSAR REGT

BRUNSWICK



NO 7 REGT

SAXONY



NO 8 REGT

LANCERS JLANEN

PRUSSIA



1 REGT

SAXONY



1

BAVARIA



NO 1 REGT

LIGHT CAVALRY

BAVARIA



NO 4 REGT

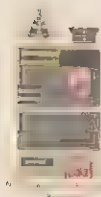
HORSE AND FIELD ARTILLERY

PRUSSIA

SAXONY

BAVARIA

PRUSSIA



FOOT ARTILLERY

PIONEERS

TELEGRAPH TROOPS

BAVARIA

PRUSSIA

SAXONY

PRUSSIA



NO 2 FOOT ART REGT

NO 9 BATTN

NO 2 BATTN

NO 2 BATTN

RAILWAY TROOPS

AIRCRAFT TROOPS

TRAIN

PRUSSIA

BAVARIA

BAVARIA

PRUSSIA



TRAFFIC SECTION

RAILWAY BATTN

AIRSHIP COMPANY

NO 8 BATTN

TRAIN

LANDWEHR OFFICERS

ATTENDANT

SAXONY

PRUSSIA

ALL STATES



NO 2 BATTN

INFANTRY OFFICER
OF 2ND ARMY CORPS

CAVALRY OFFICER

MEDICAL OFFICERS AND MEDICAL CORPS
PRUSSIA



SUBALTERN'S CROSS
AND CAPTAIN'S



SURGEON'S CROSS



MILITARY CROSS



KNIGHT'S CROSS

PAYMASTERS
PRUSSIA



PAYMASTER



ASSISTANT PAYMASTER
MAJOR AND SERGEANT



VETERAN'S CROSS

VETERINARY SURGEONS
PRUSSIA



SUB-VETERINARY
SURGEON

GENDARMERIE

FORCES ARMÉES CANADIENNES

FIELD

BOYD ARD

PAUSE A



BOYD ARD

PAUSE A

PAUSE A

PAUSE A

PAUSE A

JUDICIAL

FIELD TREASURY

FIELD TREASURY

SUPPLY



PAUSE A

ARMY ADMINISTRATION

ARMY ADMINISTRATION



TIGULAR MONOGRAMS ON THE TUNIC SHOULDER STRAPS OF INFANTRY REGIMENTS



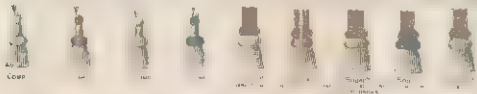
DISTINGUISHING COLOURS OF BAYONET AND SWORD KNOTS

NEARBY FOOT ARTILLERY PIONEERS AND COMMUNICATION TROOPS



PROSECUTION OF SCHOOLS

PROSECUTION OF SCHOOLS



MOUNTED MEN OF FIELD ARTILLERY

MOUNTED MEN OF FIELD ARTILLERY



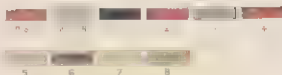
T TULAR MONOGRAMS OF THE SHOULDER STRAPS OF CAVALRY



Colours of the 1st and 2nd Divisions of Cavalry

Cuirassiers: Tunics - White or dark blue

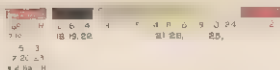
Facings



Dragoons
&
Bavarian Heavy Cavalry

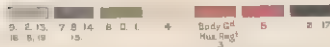
Tunics - Light blue, except Regiments
No 23 & 24 which are green

Facings



Musars

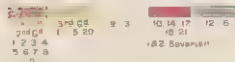
Colours of Artillery



Lancers

Dark blue except Regts 1 and 2 Green

Facings



TITULAR MONOGRAMS & SHOULDER BADGES OF ARTILLERY & COMMUNICATION TROOPS



FIELD ART R. NO. 4



FIELD ART R. NO. 12



FIELD ART R. NO. 19
H A R & LUND



FIELD ART R. NO. 13



FIELD ART R. NO. 14



FIELD ART R. NO. 25



FIELD ART R. NO. 51
HOTT & CO.



FIELD ART R. NO. 1



FIELD ART R. NO. 2



FIELD ART R. NO. 3



FIELD ART R. NO. 4



FIELD ART R. NO. 5



FIELD ART R. NO. 6

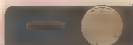
COMPANY
OF ARTILLERY

DISTINCTIVE MARKS OF RANK NCOs

LANCE CORPORAL OR BOMBARDIER



LANCE CORPORAL



LANCE CORPORAL
OF ARTILLERY

BUTTONS OF THE VARIOUS STATES



1st



2nd



3rd



4th

UNDER OFFICERS AND SERJEANTS



UNDER OFFICER



SERGEANT



1st



2nd



3rd



UNDER OFFICER



SERGEANT



SERGEANT



SERGEANT



SERGEANT



S



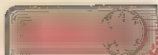
SERGEANT



SERGEANT

SLEEVES OF UNDER OFFICERS AND SERJEANTS

SERGEANT MAJORS



SERJ MA F L



SERJ MA F L
I & II BATTY GREEN-RED NO 69



SERJ MA F L
II BATTY GREEN-RED NO 69

SERJ MAJORS SLEEVES



SERJ MA F L



SERJ MA F L



SERJ MA F L



SERJ MA F L

ARM BANDS



HOSPITAL ARM BANDS



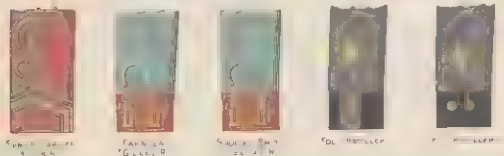
REST STRETCHER BANDS

DISTINCTIVE MARKS OF ONE YEAR VOLUNTEERS



FARRIERS & SHOEING SMITHS

LAYERS



DISTINCTIVE MARKS OF RANK MEDICAL OFFICERS



ARMY MEDICAL OFFICERS



ARMY MEDICAL OFFICERS



ARMY MEDICAL OFFICERS



ARMY MEDICAL OFFICERS ON THE STAFF OF THE ARMY



VETERINARY PERSONNEL



VETERINARY PERSONNEL



VETERINARY PERSONNEL



PAYMASTERS



ARMY MEDICAL OFFICERS

HELMET AND SHAKES ORNAMENTS



COCKADES OF THE GERMAN STATES

OFFICERS AND ENGLISH UNDER OFFICERS



UNDER OFFICERS AND MEN



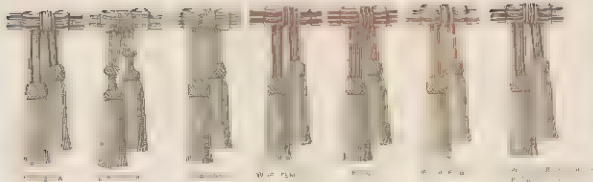
SHOULDERS AND BUTTONS

DISPENSATION BUTTONS IN SHOULDER STRAPS FOR COMPANIES, SQUADRONS AND BATTALIONS

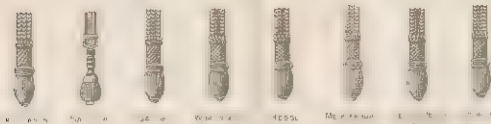


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14
15

OFFICERS' SASHES



OFFICERS' SWORD KNOTS



SWORD & BAYONET KNOTS OF UNDER OFFICERS & SERJEANTS

INFANTRY FOOT ARTILLERY PIONEERS

AGERS



Infantry Under Officer



Foot Artillery Sergeant



Pioneer Sergeant



Infantry Sergeant



Foot Artillery Sergeant



Pioneer Sergeant



Infantry Sergeant



Infantry Sergeant



Infantry Sergeant

CAVALRY FIELD ARTILLERY AND TRAIN



Cavalry Sergeant



Field Artillery Sergeant



Cavalry Sergeant



Field Artillery Sergeant



Cavalry Sergeant



Field Artillery Sergeant



Cavalry Sergeant

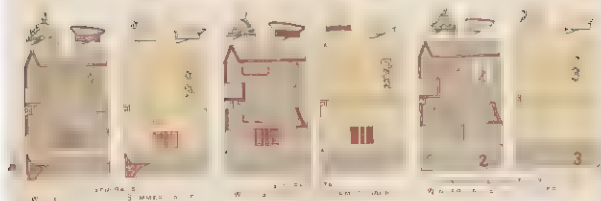
PROTECTORATE TROOPS FOR EAST AFRICA

PROTECTORATE TROOPS FOR SOUTH WEST AFRICA



COLONIAL TROOP

EAST AS AN BRIGADE OF OCCUPATION



FAST AS A BRIGADE OF OCCUPATION



MARINE INFANTRY (*Kiao chau,*



GERMAN
 SERVICE UNIFORM (OFFICER)
 T. M. W. E. L. F. O. A. C. M. A. R.

Plate 1



FRONT

FRONT (other)

Back - in
 War Ministry

2nd Foot Co. Regt.

IV A Corps



Major

Col. Mack. Com. Guides du Corps
Batt.

Major
7th Regt. Bgt.

Major
12th Regt. Bgt.

F F D SERVICE UNIFORM F F 05



1st Lt. K.

2nd Lt. W. Rgt

Rgt. 2nd

1st Lt.

1st Lt. W.

GERMAN
FIELD SERVICE UNIFORM RANK AND FILE



Sergeant Private Private Private Private Private Private Private

FEEL SUPPORT AND FORM RANK AND DUE



1. $\frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$

FIG. 1. SERVICE UNIFORM MALE AND F



United States Army

1

1914

United States Army

United States Army

United States Army

1914

1

SAXON TP

F L G R U C N E E M J E H N E P L



10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

FIELD SERVICE UNIFORM DRESSING MARKS
TUNICS ETC



SHOULDER STRAPS



FIELD SERVICE INFORM ORANGE CAPS 1

17 11



Red band and small emblem

Green band and small emblem

Black band and small emblem

Red band and small emblem

Black band and small emblem

Green band and small emblem

FIELD SERVICE NORM FLYING CAPS



FIELD SERVICE LEAF FROM SHOULDER STRAPS



FIELD SERVICE UNIFORM SHOULDER STRAPS I

Plate 44



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler



Sergeant
General Butler

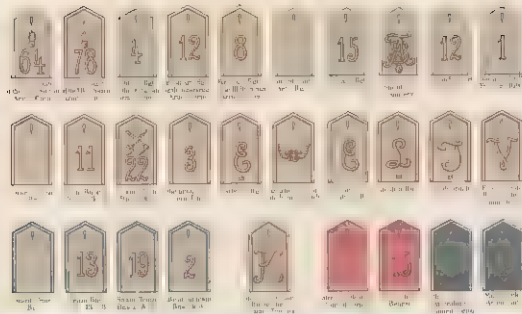


Sergeant
General Butler



FIELD SERVICE UNIFORM SHOULDER STRAPS

1-1



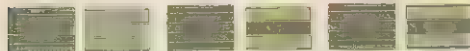


PLATE 1. THE FIRST FOURTEEN OF THE SEVEN PLATES

PLATE 1. THE FIRST FOURTEEN OF THE SEVEN PLATES

PLATE 1. THE FIRST FOURTEEN OF THE SEVEN PLATES

PLATE 1. THE FIRST FOURTEEN OF THE SEVEN PLATES

PLATE 1. THE FIRST FOURTEEN OF THE SEVEN PLATES

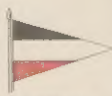
PLATE 1. THE FIRST FOURTEEN OF THE SEVEN PLATES



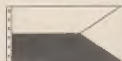
ARMY
HEADQUARTERS.



ARMY-CORPS
HEADQUARTERS.



DIVISIONAL
HEADQUARTERS.



PRUSSIA.



IMPERIAL STANDARD.



OLDENBURG.

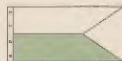


HESSE.



BADEN AND MECKLENBURG.

These Lance Pennons are carried in Army Corps I-XI, XIV-XVIII, XX & XXI



SAKONY
ARMY CORPS XII & XIX.



WÜRTTEMBERG
ARMY-CORPS XIII



BAVARIA.
BAVARIAN ARMY CORPS
I-III.

The colours of the German Empire are

*Black
White
Red* } *in horizontal stripes*

*This Article was donated to
the Australian War Memorial
by Capt. W.D. McKenzie. M.C.
33rd Bn. A.I.F.
28/2/30.*

PRINTED RECORDS

4-16854

355.
30943
H236
1912

Handbook of the
German army



AWM019506

Printed & Written Records
Australian War Memorial
AC 11578.414

